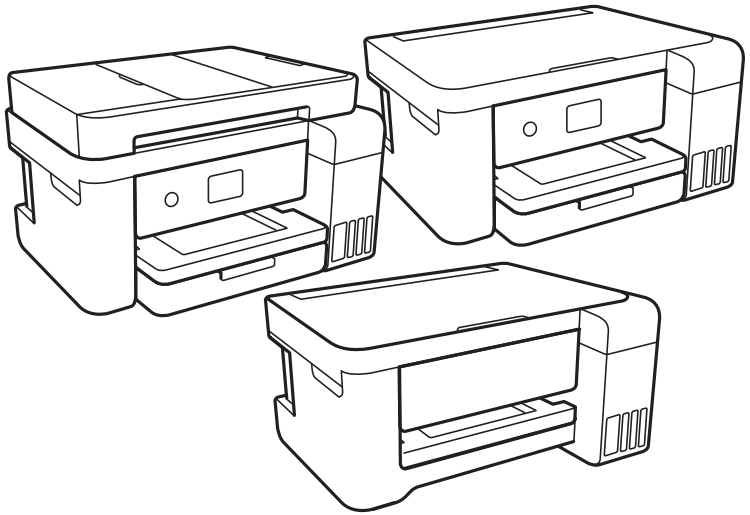
Service Manual



Color Inkjet Printer

EPSON

ET-4850/L6290/ST-C4100 series
ET-3850/ET-3840/L6270 series
ET-3800/ET-3830/L6260 series
ET-2850/L4260/ST-C2100 series

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Service Support Planning Department

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Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson;
   introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. The capacitors on the Main Board may be electrically charged right after the power turns off or after driving motors which generates counter electromotive force such as when rotating the PF Roller or when moving the CR Unit. There is a risk to damage the Main Board if the FFC is short-circuited with the capacitors on the Main Board electrically charged, therefore, after the power turns off or after motors are driven, leave the printer untouched for approximately 30 seconds to discharge the capacitors before starting disassembly/ reassembly.

6. To prevent the circuit boards from short-circuiting, be careful about the following when handling FFC or cables.
   - When handling FFC, take care not to let the terminal section of FFC touch metal parts.
   - When connecting cables/FFC to the connectors on circuit boards, connect them straight to the connectors to avoid slant insertion.
7. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
8. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
9. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.
10. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
11. Use only recommended tools for disassembling, assembling or adjusting the printer.
12. Observe the specified torque when tightening screws.
13. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - LCD
    - Scanner Sensor
    - Exterior parts
14. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
15. Apply the specified amount of grease described in this manual.
16. Make the specified adjustments when you disassemble the printer.
17. When cleaning this product, follow the procedure described in this manual.
18. When transporting this product after filling the ink in the printhead, pack the printer without removing the adapters in order to prevent the printhead from drying out.
19. Make sure to install antivirus software in the computers used for the service support activities.
20. Keep the virus pattern file of antivirus software up-to-date.
21. When disassembling/reassembling this product, if you find adhesive power of the double-sided tape which secure the parts or FFC is not enough, replace the tape with new one and attach it correctly to the specified points where the parts or FFC should be secured.
22. Unless otherwise specified in this manual, the labels attached on the returned product should be transferred to the corresponding attachment positions on the new one referring to the labels on the returned product.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. OPERATING PRINCIPLES

Describes the electrical and mechanical basic operating principles of the product.

CHAPTER 2. TROUBLESHOOTING

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 3. DISASSEMBLY/ASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

CHAPTER 4. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 5. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 6. APPENDIX

Provides the following additional information for reference:

- Connector Diagram
- Protection for Transportation

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 3 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "3.3 Disassembly/Reassembly Procedures (p92)".

Revision Status

Revision	Date of Issue	Description
A	April. 26, 2021	First release
B	July. 15, 2021	Revised ☐ Chapter 2 ■ Made change in"2.3.2.7 Printer (Others) (p62)" • " Paper jam release impossible error (p62)" have been added. ■ Made change in"2.3.2.8 System Error (p62)" • Firmware bug have been deleted. • " Panel unit failure (p62)" have been added. ☐ Chapter 3 ■ Made change in "3.1 Overview (p76)" • Made change in "3.1.4 Standard Operation Time for Servicing the Product (p79)" ■ Made change in "3.3 Disassembly/Reassembly Procedures (p92)" • Made change in "3.3.3 Disassembly Flowchart (p94)" ☐ Chapter 4 ■ Made change in "4-1 Adjustment Correspondence Table (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ ET-3800/ET-3830/L6260 series) (p142)" • ADF Type Select have been added in Adjustment item. • ADF Unit have been added in Relevant parts. ■ Made change in"4.2 Adjustment Program (p145)" • " ADF Type Select (p147)" have been added.
C	August. 27, 2021	Revised ☐ Chapter 2 ■ Made change in"2.4 Service Support Mode (p63)" • "o Overview (p63)" have been corrected. Delete the sentence “ET-2850/L4260/ST-C2100 series are excluded from this mode because they don’t have LCD.”

D	February. 10, 2022	Revised ☐ All Chapter ■ Add models (ET-3840 Series)
E	October. 28, 2022	Revised ☐ Chapter 2 ■ Revised some descriptions in "2.4 Service Support Mode (p63)" • Made change in the way to put the printer into service support mode. ☐ Chapter 4 ■ Added some descriptions in "4.2.1 Operating Environment (p145)" • Windows 11 has been added. ■ Added some descriptions in "4.2.2 Adjustment and Inspection List (p145)" • Made change in " Initial Setting". • " Printer startup mode selection*2" has been added. ■ Revised some descriptions in "4.3.2 Touch Panel Adjustment (ET-4850/L6290/ST-C4100 series only) (p161)" • Made change in the way to put the printer into service support mode.

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CHAPTER

1

OPERATING PRINCIPLES

1.1 Printer Mechanism Overview

This chapter describes overview of each mechanism inside the printer.

1.1.1 Print Head

µTFP1S head (p 12) is used for ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series.
F2 head (p 13) is used for ET-2850/L4260/ST-C2100 series.

☐ ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

Table 1-1. Nozzle Configuration

Color	Four colors: black (Bk), cyan (C), magenta (M), yellow (Y)
Number of nozzles	784 nozzles: 400 nozzles for Bk, and 128 nozzles for each of Y, M, and C
Nozzle pitch	300 dpi

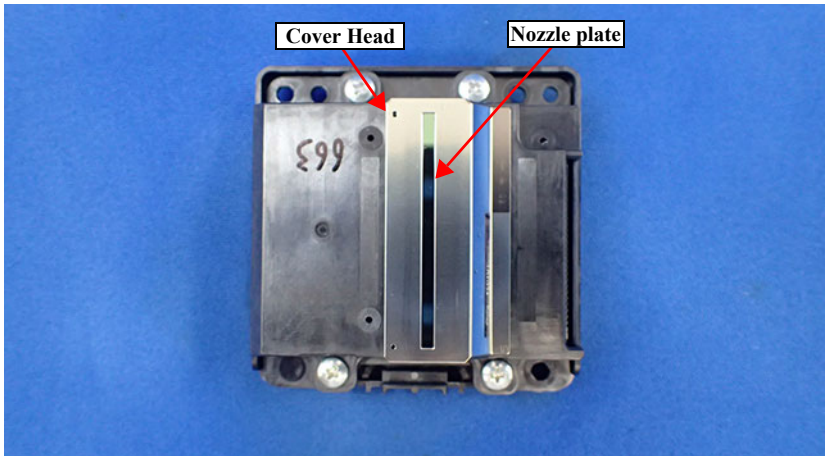
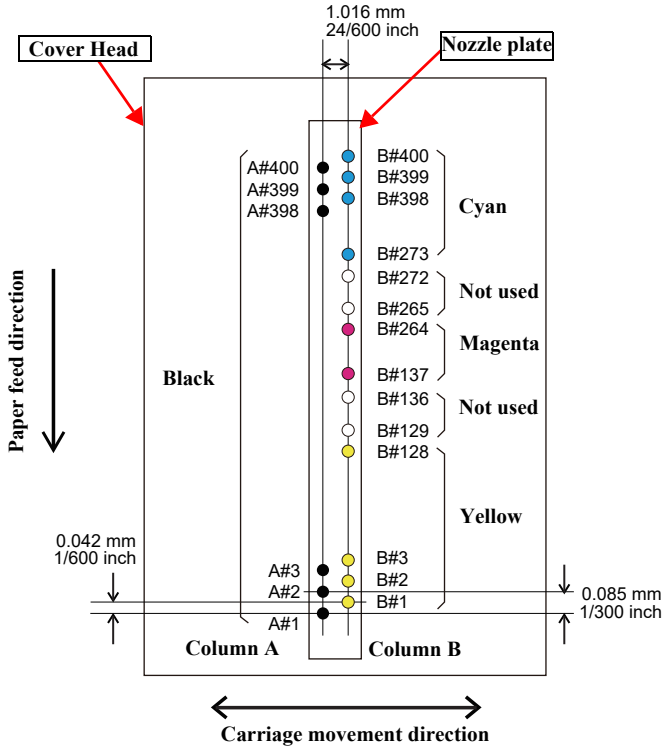


Figure 1-1. µTFP1S Print Head appearance



Column	Color
A	Bk
B #1 - #128	Y
B #137 - #264	M
B #273 - #400	C

Figure 1-2. Nozzle layout (seen from the rear side)

☐ ET-2850/L4260/ST-C2100 series

Table 1-2. Nozzle Configuration

Color	Four colors: black (Bk), cyan (C), magenta (M), yellow (Y)
Number of nozzles	357 nozzles: 180 nozzles for Bk, 59 nozzles for each Y, M, and C.
Nozzle pitch	180 dpi

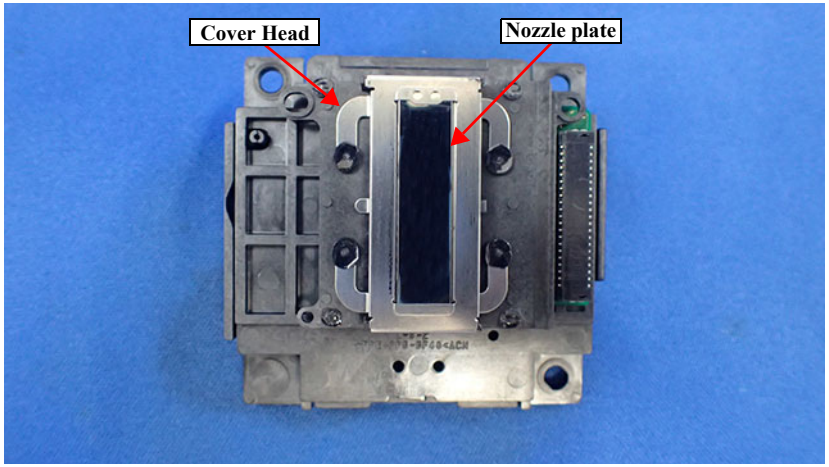
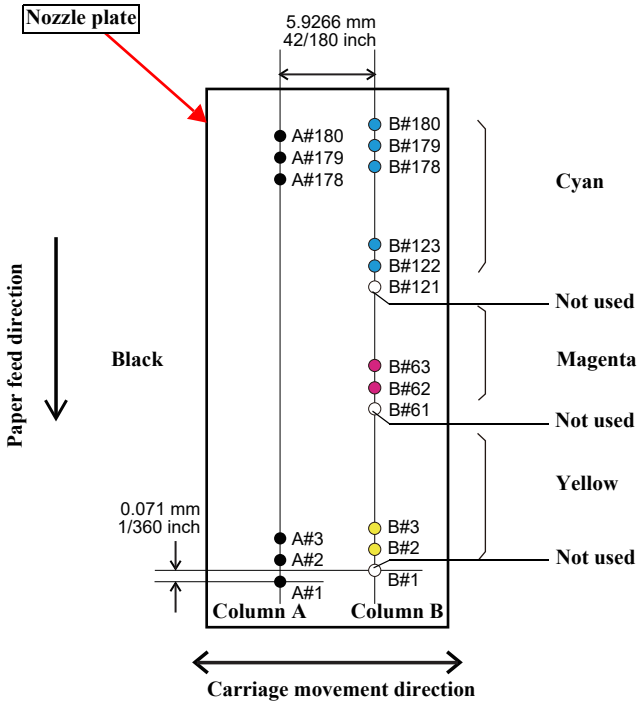


Figure 1-3. F2 Print Head appearance



Column	Color
A	Bk
B #1 - #60	Y
B #62 - #120	M
B #122 - #180	C

Figure 1-4. Nozzle layout (seen from the rear side)

1.1.2 Carriage (CR) Mechanism

The major components of the carriage (CR) mechanism are the CR Unit, CR Encoder Sensor, CR Scale, CR Motor, and CR Timing Belt. The CR mechanism is a key mechanism to ensure stable print quality because printing is performed by moving the CR Unit from side to side.

As shown on the right, Main Frame is holding the upper side and the lower side of the CR Unit. The CR Unit is attached to the CR Timing Belt that is moved by the CR Motor so that the assy can move from side to side to print. The position and speed of the CR Unit are always monitored by the CR Encoder Sensor and the CR Scale, and the CR Motor is controlled in accordance with the information acquired by the CR Encoder Sensor.

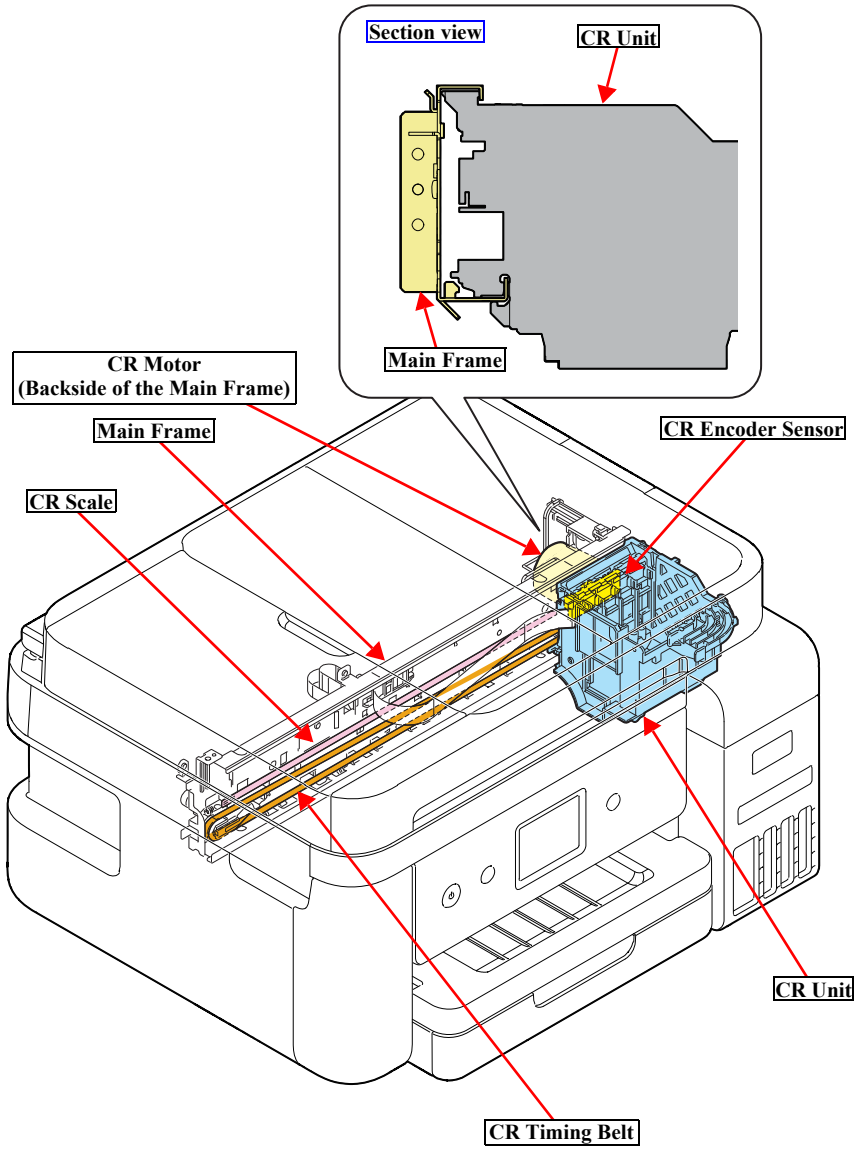


Figure 1-5. Carriage (CR) mechanism

1.1.3 Paper Loading/Feed Mechanism

Paper loading mechanism differs between ET-4850/L6290/ST-C4100 series/ ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series and ET-2850/ L4260/ST-C2100 series. ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/ L6270 series/ET-3800/ET-3830/L6260 series employ the front paper loading, and ET-2850/L4260/ST-C2100 series employ the rear paper loading. The both paper loading mechanisms are driven by the PF Motor, and the motor is also used for driving the paper feeding mechanism.*1

The printer is also equipped with a paper feeding mechanism for auto duplexing as well as other existing products. The mechanism flips paper after printing on the front side is finished, and feeds the paper to print on the back side.

☐ ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

A sheet of paper is fed inside the printer from the Paper Cassette by the Pick up Roller Assy.

Because the Pick up Roller Assy needs to be stopped each after it feeds a sheet of paper, it is necessary to control the transmission of a drive force to the assy. The control is achieved by the Slider Trans and the Holder Cam Assy. When the Slider Trans is moved by the CR Unit, the state of engagement between the transmission gear on the Trans Slider and the Pick up Roller driving gear changes, which enables switching between transmitting the PF Motor driving force to the Pick up Roller Assy and not transmitting it.

Even after the CR Unit is detached from the Slider Trans for printing, position of the Slider Trans is kept by the Holder Cam Assy.

The paper fed by the Pick up Roller Assy is conveyed by the intermediate roller, PF Roller, and EJ Roller which are included in the paper feeding mechanism.

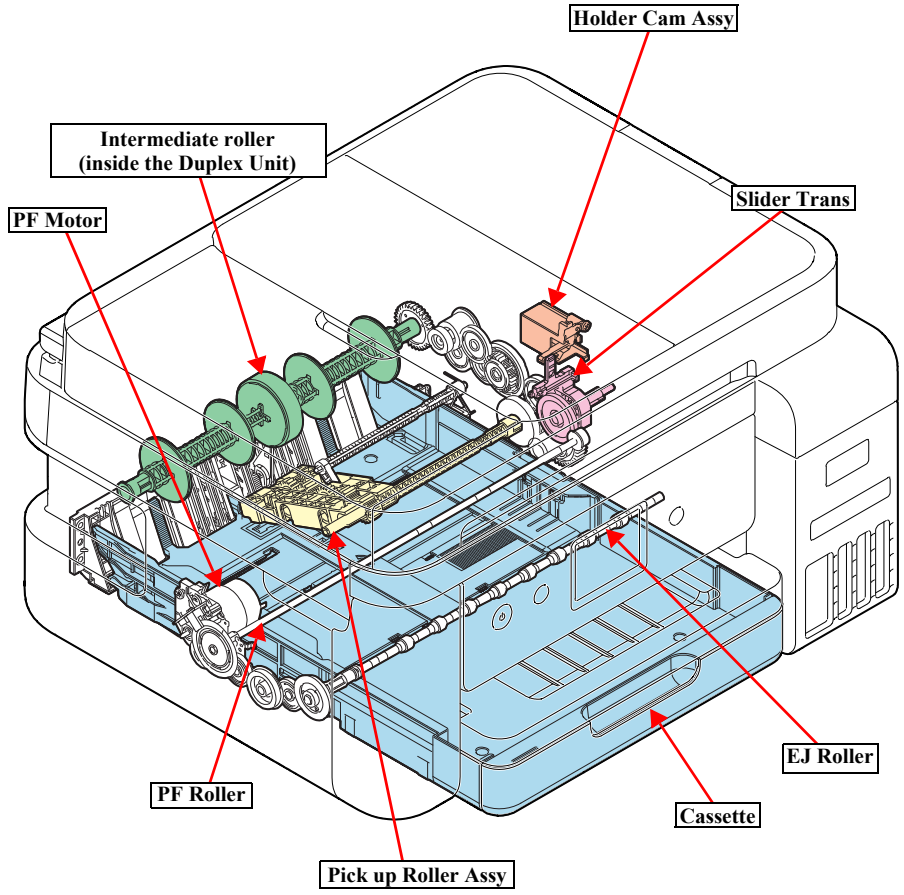


Figure 1-6. Paper loading/feed mechanism (1)

*1. See "1.3 Paper Loading/Feed Mechanism" (p 22) for more details.

☐ ET-2850/L4260/ST-C2100 series

Paper is fed inside the printer from the ASF Rear by the LD Roller.

The ASF Rear is equipped with a Hopper, Paper Back Lever, Change Lever, LD Roller, and clutch. The Change Lever and the clutch work for transmitting a driving force from the PF Motor to the LD Roller and for not transmitting it.

The Hopper and the Paper Back Lever driven by the cam on the LD Roller Shaft prevent multi-feed and ensure accurate paper feeding.

Paper fed by the ASF Rear is conveyed by the PF Roller and the EJ Roller which are included in the paper feeding mechanism.

Unlike the front paper loading, intermediate roller is used only when flipping paper for duplex printing.

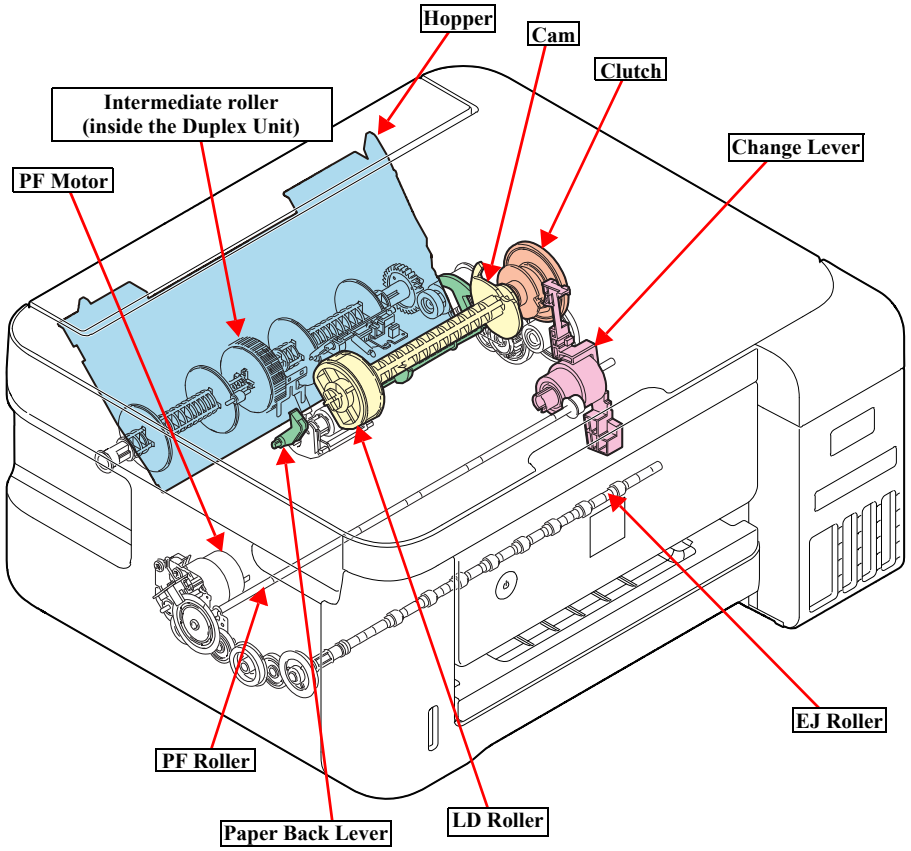


Figure 1-7. Paper loading/feed mechanism (2)

1.1.4 Ink System Mechanism

The major components of the ink system mechanism*1 are a cap, pump unit, and waste ink tube.

The ink system mechanism employs the slide type capping. When the CR Unit returns to its capping position (home position), the Print Head is capped. The pump mechanism, wiper mechanism, and the CR Lock mechanism are driven by the PF Motor to clean the Print Head.

Waste ink sucked when cleaning the Print Head is collected in the Maintenance Box through the pump mechanism.

User replaceable Maintenance Box is installed to ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series. A CSIC mounted on the Maintenance Box keeps track of how much waste ink has been collected.

On the other hand, the Porous Pad that cannot be replaced by user is installed to ET-2850/L4260/ST-C2100 series. The EEPROM on the Main Board keeps track of how much waste ink has been collected.

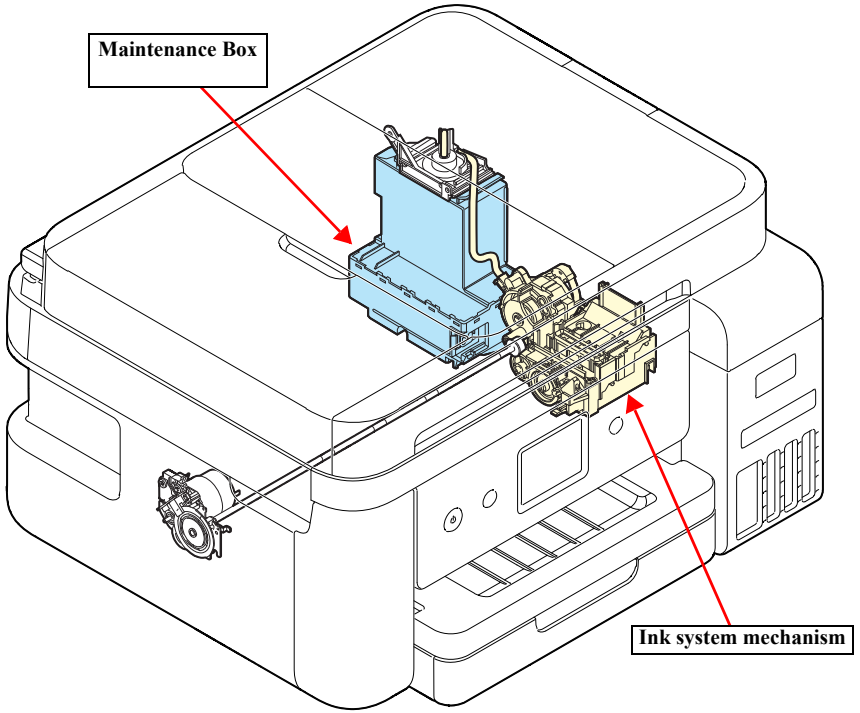


Figure 1-8. Ink system mechanism

*1. See "1.4 Ink System Mechanism" (p 33) for more details.

1.1.5 List of Motor and Sensor

This section describes the types and positions of the motors and sensors.

☐ ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

Table 1-3. Motor and Sensor List (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Mechanism name	Motor/sensor name	Motor/sensor type	No.
Carriage mechanism	CR Motor	DC Motor	A
	CR Encoder	Transmission-type photo interrupter	1
	PW Sensor	Reflection-type photo interrupter	2
Paper loading/feed mechanism	PF Motor	DC Motor	B
	PF Encoder	Transmission-type photo interrupter	3
	Cassette Sensor	Mechanical contact	4
	PE Sensor	Reflection-type photo interrupter	5
Others	Ink Cover Open Sensor	Mechanical contact	6
Scanner	SCN Motor	DC Motor	C
	SCN Motor Encoder	Transmission-type photo interrupter	7
	ADF PE Sensor	Transmission-type photo interrupter	8

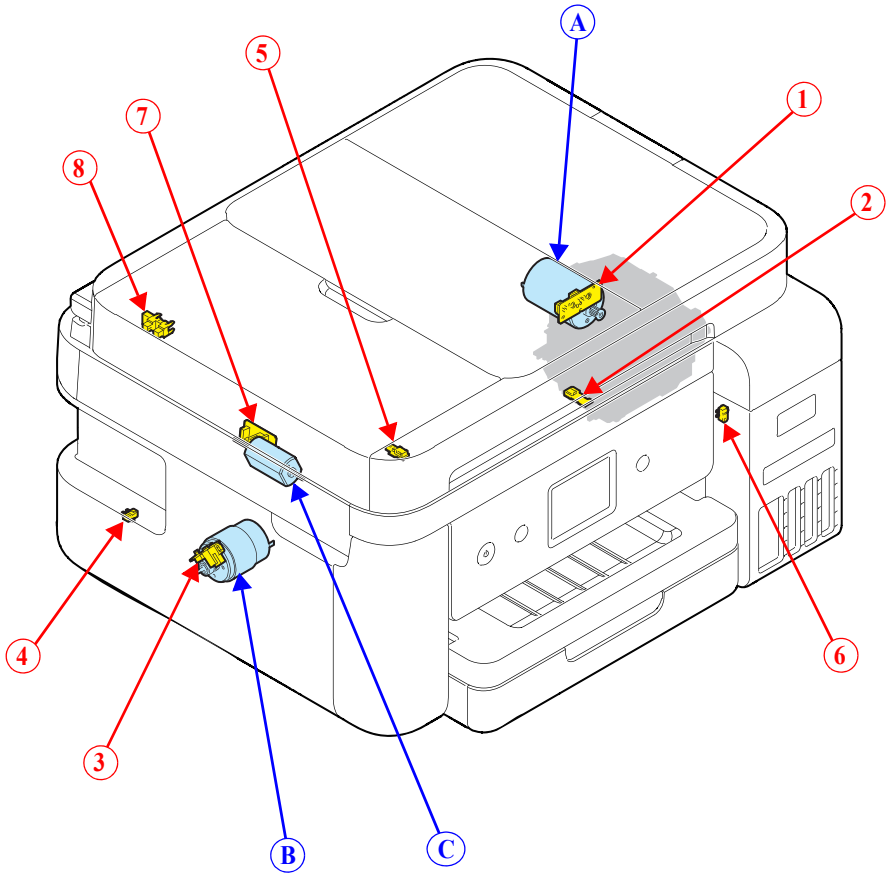


Figure 1-9. List of motor and sensor (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

☐ ET-2850/L4260/ST-C2100 series

Table 1-4. Motor and Sensor List (ET-2850/L4260/ST-C2100 series)

Mechanism name	Motor/sensor name	Motor/sensor type	No.
Carriage mechanism	CR Motor	DC Motor	A
	CR Encoder	Transmission-type photo interrupter	1
	PW Sensor	Reflection-type photo interrupter	2
Paper loading/feed mechanism	PF Motor	DC Motor	B
	PF Encoder	Transmission-type photo interrupter	3
	ASF Rear Paper existence Sensor	Mechanical contact	4
	PE Sensor	Reflection-type photo interrupter	5
Scanner	SCN Motor	DC Motor	C
	SCN Motor Encoder	Transmission-type photo interrupter	6

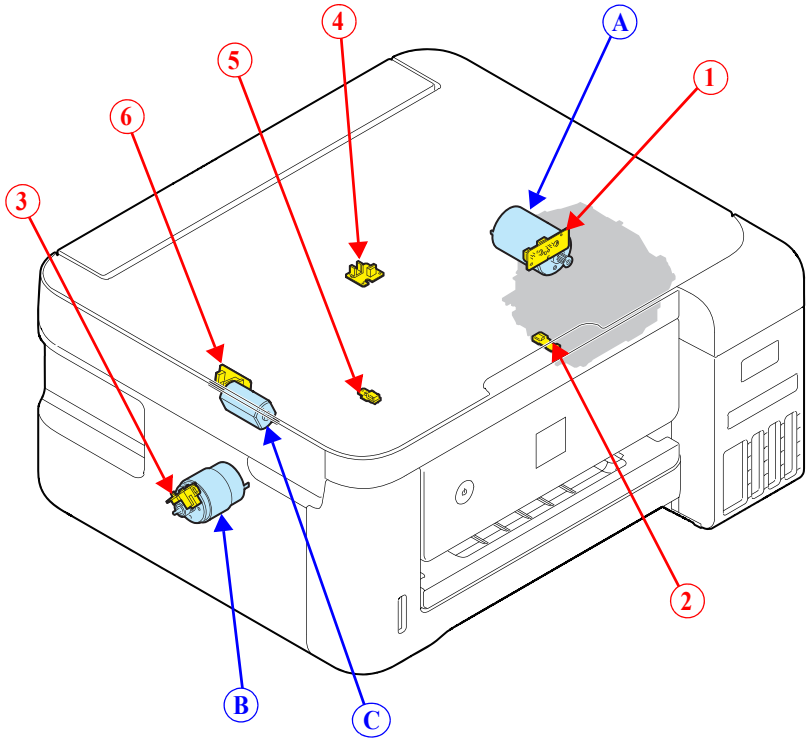


Figure 1-10. List of motor and sensor (ET-2850/L4260/ST-C2100 series)

1.2 Scanner/ADF Overview

1.2.1 Scanner Mechanism

The scanner mechanism consists of a CIS sensor that scans documents and the SCN motor that drives the scanner carriage. The CIS sensor and the SCN motor are integrated as the scanner carriage, and it moves along the rail on the scanner housing to scan documents.

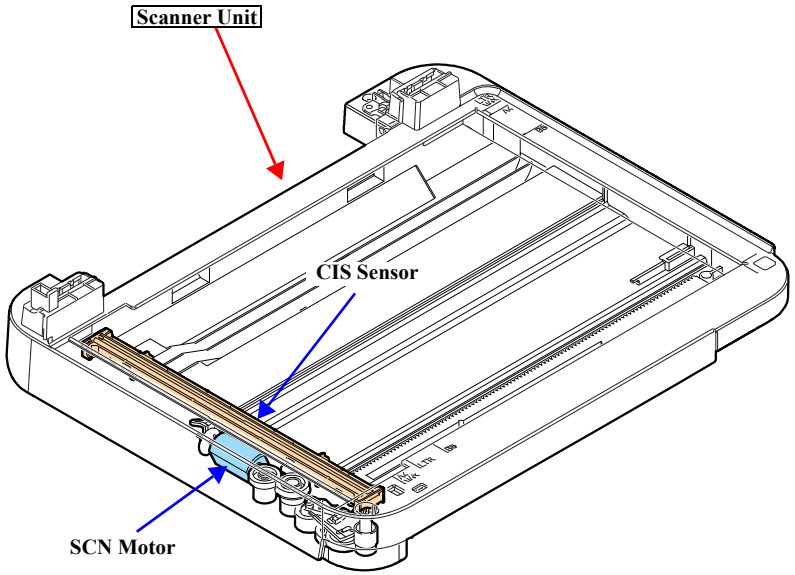


Figure 1-11. Scanner mechanism

1.2.2 ADF Mechanism (ET-4850/L6290/ST-C4100 series/ ET-3850/ET-3840/L6270 series only)

The PF Roller, EJ Roller, and Pick up Roller of the ADF mechanism are driven by the SCN Motor. The drive force of the motor is transmitted through the transmission gear. The ADF mechanism does not support auto duplex scanning.

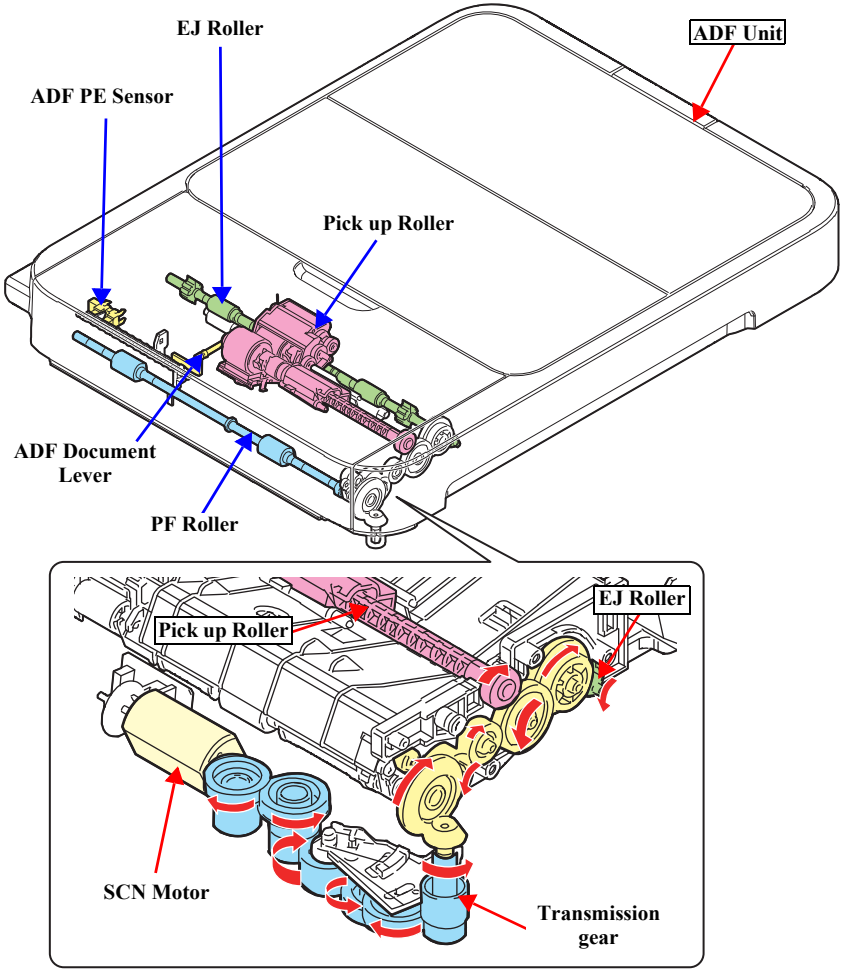


Figure 1-12. ADF mechanism

When scanning document, the document is fed inside the ADF as shown below.

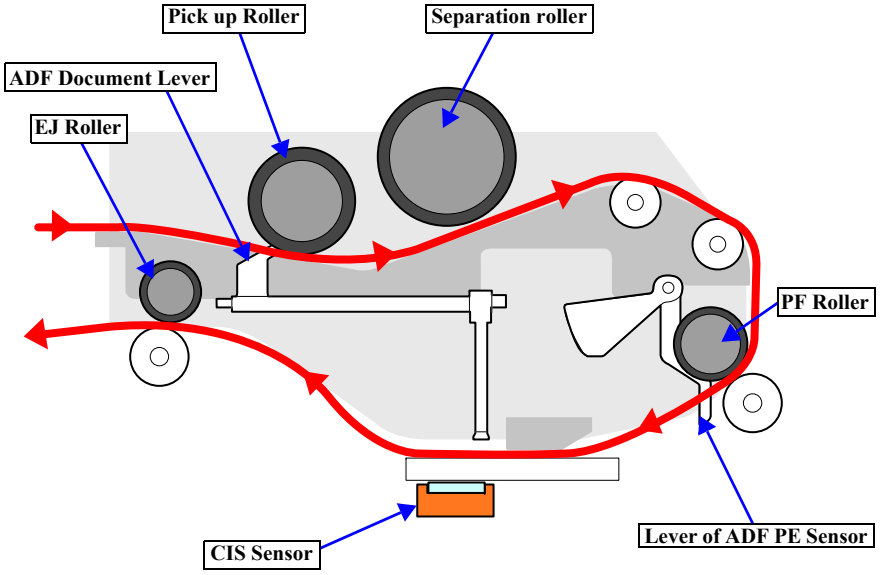


Figure 1-13. Document Feed Path

Presence or absence of document on the ADF is detected by the ADF Document Lever and the scanner CIS Sensor. The lever moves up or down depending on the presence or absence of document, and the end of the lever is scanned by the CIS Sensor. According to the scan result, the printer determines whether document is present or not.

Additionally, there is a Sub Document Lever beside the ADF Document Lever. If the CIS Sensor cannot scan the end of the Sub Document Lever, the printer determines that the scanner (SCN) unit is open or the CIS Sensor is malfunctioning.

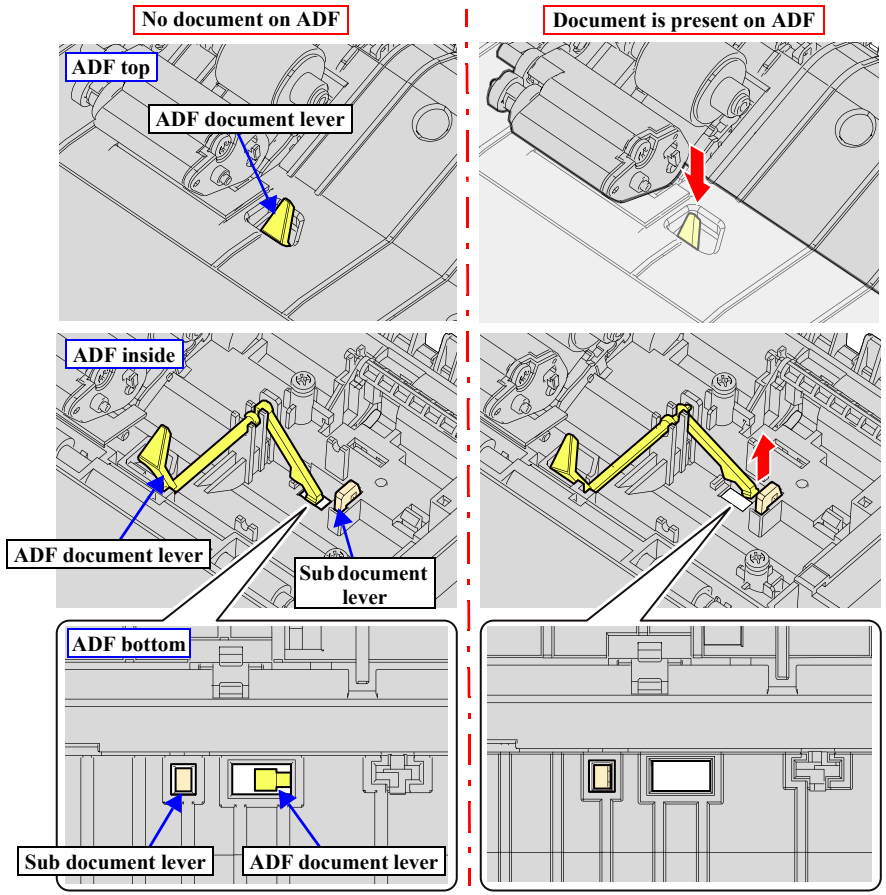


Figure 1-14. ADF document lever

1.3 Paper Loading/Feed Mechanism

1.3.1 Overview

1.3.1.1 Paper Loading Method

Paper loading method differ between ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series and ET-2850/L4260/ST-C2100 series, but the both paper loading mechanisms are driven by the PF Motor.

Table 1-5. Paper Loading Method and Drive Force

Drive force (motor)	Motor control	Paper loading operation	
		Front paper loading model	Rear paper loading model
PF Motor	PF encoder/ PF scale	• Turn the Slider Trans to ASF mode, drive the Pick up Roller Assy, and load paper from the cassette. • Paper loaded from the cassette is fed to the PF Roller by the intermediate roller inside the duplex unit. • Drive the PF Roller/EJ Roller to convey the paper.	• Drive the LD Roller and load paper from the ASF Rear. • Drive the Hopper/Paper Back Lever to prevent multi-feed. • Drive the PF Roller/EJ Roller to convey the paper. • To flip paper for duplex printing, drive the intermediate roller inside the duplex unit. The paper is flipped and then fed to the PF Roller.

The following describes which paper loading method is used for which model.

- **Front paper loading**
  ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/ L6270 series/ET-3800/ET-3830/L6260 series/
- **Rear paper loading**
  ET-2850/L4260/ST-C2100 series

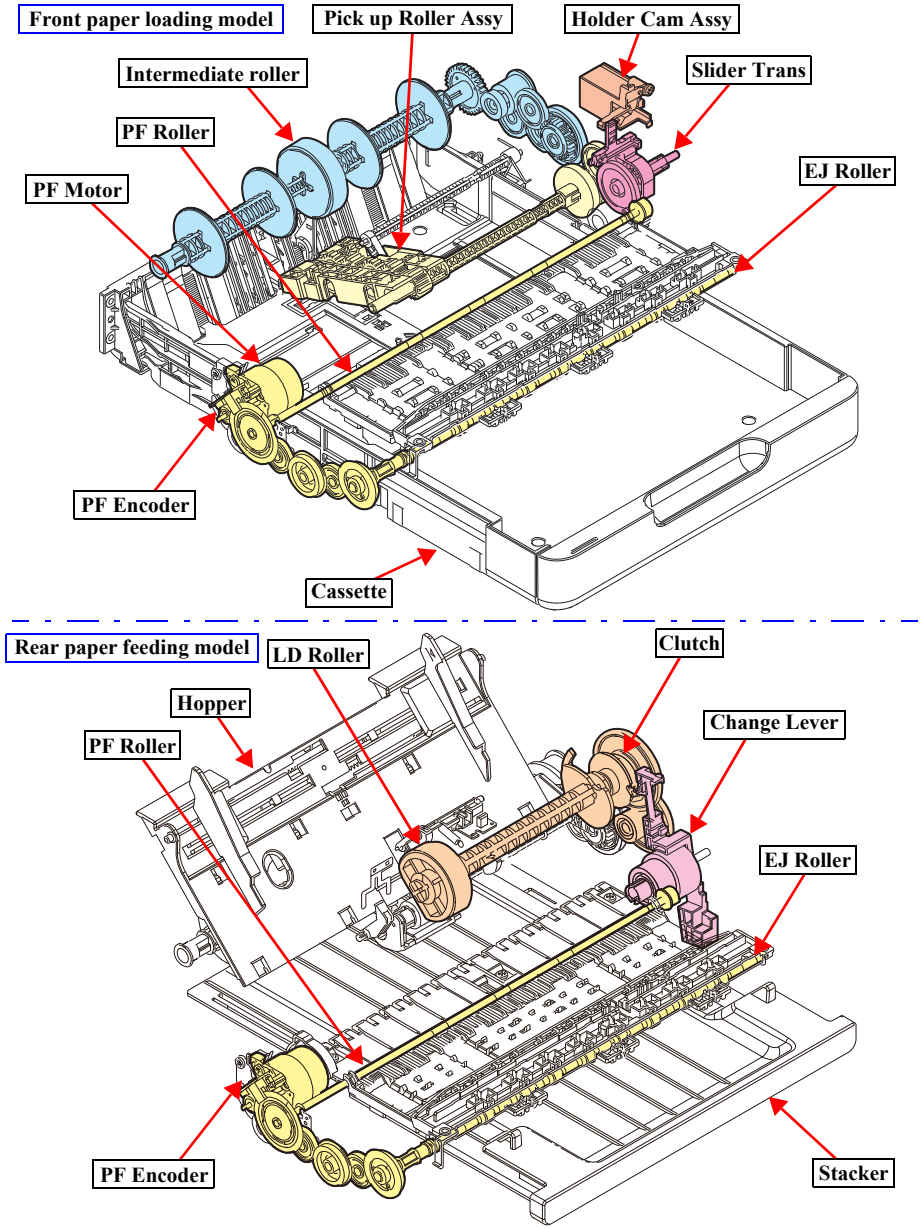


Figure 1-15. Paper loading/feed mechanism

1.3.1.2 Paper Feed Path

1.3.1.2.1 Front Paper Loading

Paper loaded into the cassette is fed to the intermediate roller by the Pick up Roller Assy, and then arrives at the PE Sensor position.

Next, skew is corrected, and printing on the paper is performed while the paper is being fed by the PF Roller and EJ Roller/Star Wheel Holder Assy, then the paper is ejected to the Stacker.

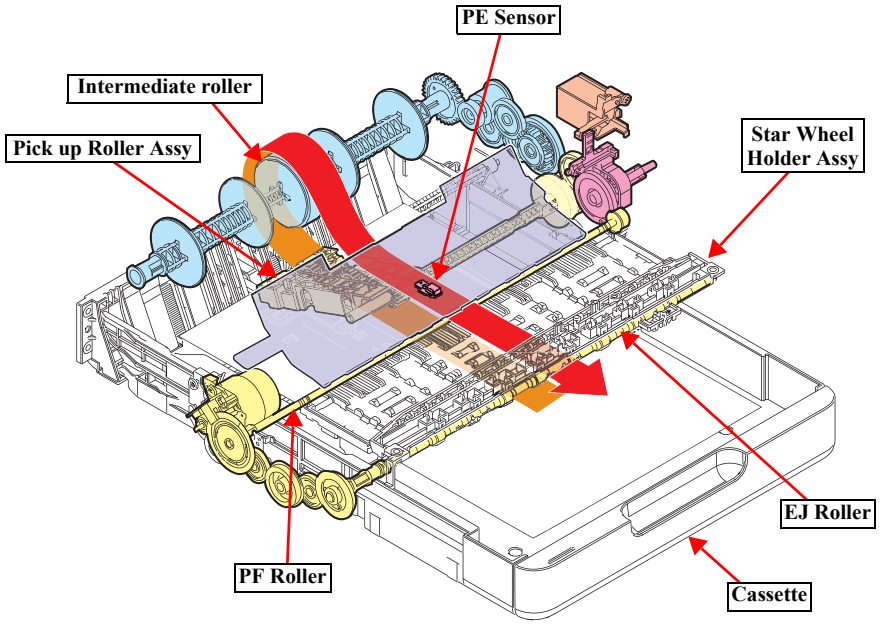


Figure 1-16. Paper feed path of front paper loading

1.3.1.2.2 Rear Paper Loading

Paper put on the Hopper is fed by the LD Roller and arrives at the PE Sensor position.

Next, skew is corrected, and printing on the paper is performed while the paper is being fed by the PF roller and EJ Roller/Star Wheel Holder Assy, then the paper is ejected to the Stacker.

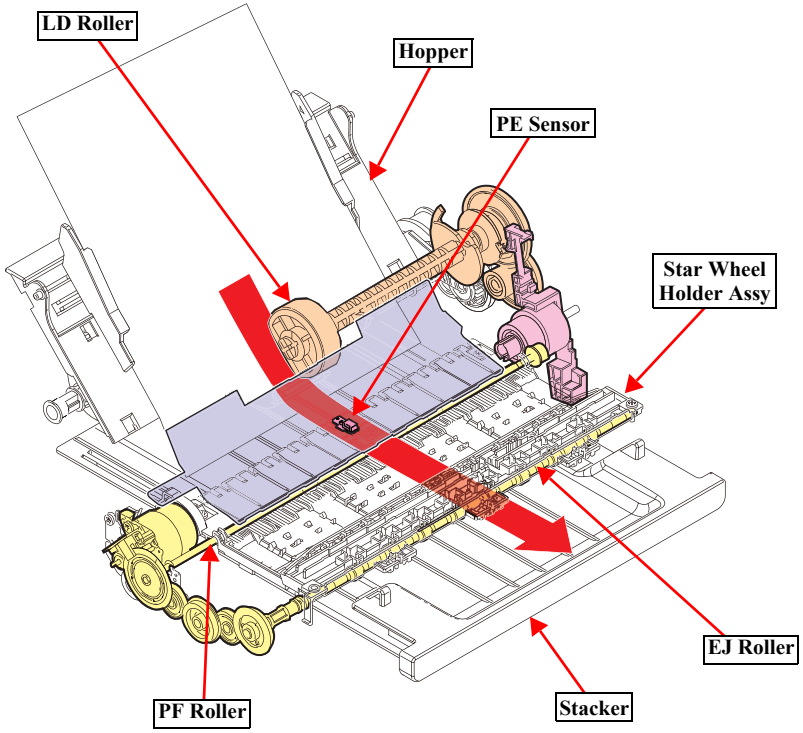


Figure 1-17. Paper feed path of rear paper loading

1.3.1.2.3 Paper Loading Path for Auto Duplex Printing

When printing on one side is finished, the printer waits for the ink on the one side to dry keeping the paper nipped between the PF Roller and Driven Roller. After a predetermined drying time has passed, the PF Roller and EJ Roller are rotated in the reverse direction to pull the paper inside the auto duplex unit. When the leading edge of the paper is detected by the PE Sensor, skew is corrected, and then printing on the back side is performed.

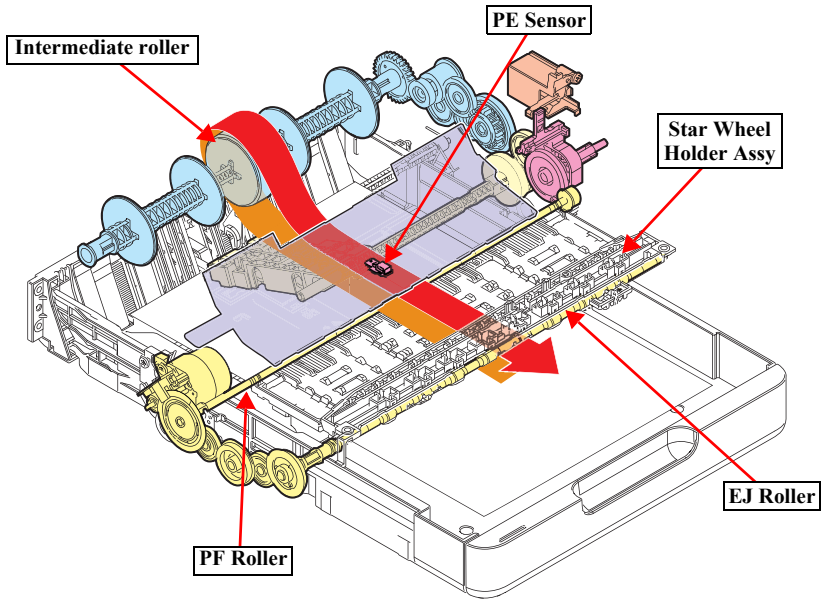


Figure 1-18. Paper feed path for auto duplex printing (back side printing)

1.3.2 Operation Principle

1.3.2.1 Drive Path

1.3.2.1.1 Drive Path of Front Paper Loading Model

The drive force of the PF Motor is transmitted to the PF Roller and EJ Roller through the compound gear and the spur gear, and then transmitted from the PF Roller to the paper feed mechanism. There are two drive paths; duplex unit system (p 27) and Pick up Roller Assy system (p 28).

DRIVE PATH FROM PF MOTOR TO PF ROLLER/EJ ROLLER

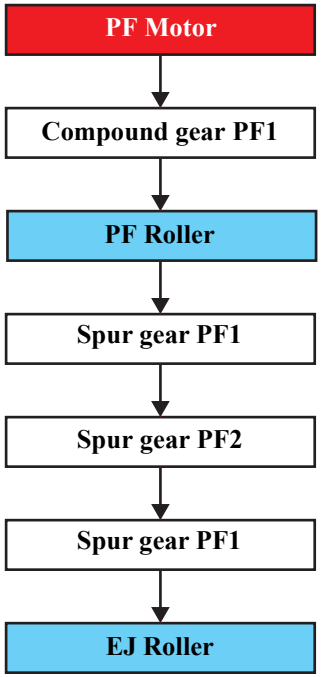


Figure 1-19. Drive path from PF Motor to PF Roller/EJ Roller (1)

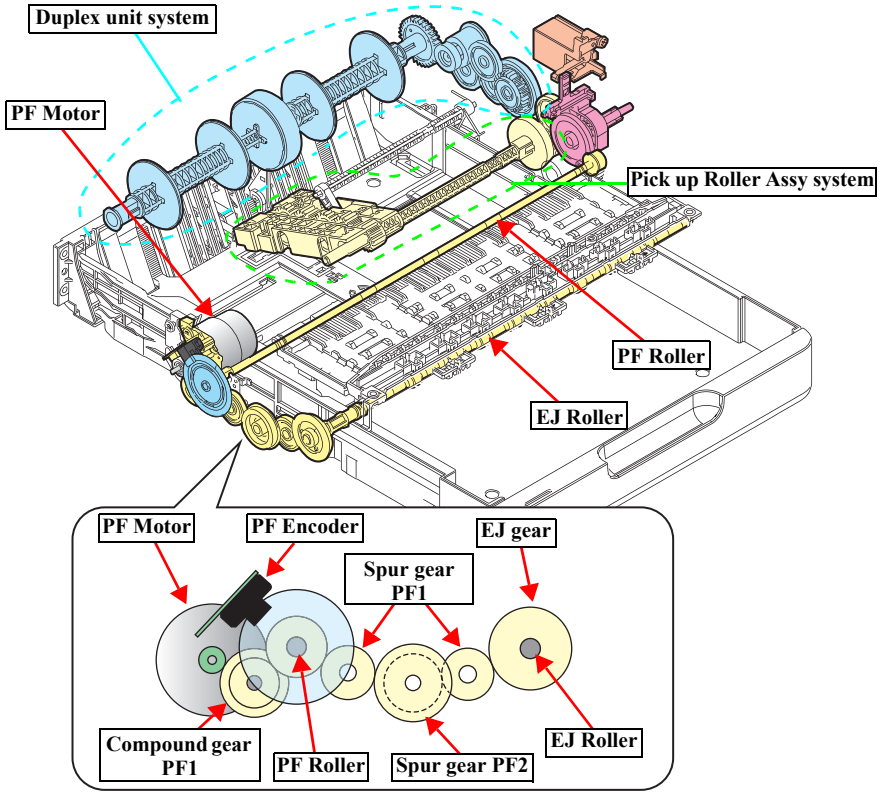


Figure 1-20. Drive path from PF Motor to PF Roller/EJ Roller (2)

DRIVE PATH FROM PF ROLLER TO INTERMEDIATE ROLLER (DUPLEX UNIT SYSTEM)

The intermediate roller always rotates in the paper feed direction because of the one way clutch, regardless of the PF roller rotational direction.

The one way clutch is consist of the sun gear, the external gear (x2) on both sides of the sun gear, and the planetary gear (x5 each) inside the external gear. When the sun gear rotates, either one of the external gears idle being disengaged from the planetary gears, while the external gear on the other side rotates being engaged with the planetary gears. In this way, the one way clutch is designed to rotate either one of the two external gears at a time, and which one to rotate depends on the rotational direction of the sun gear.

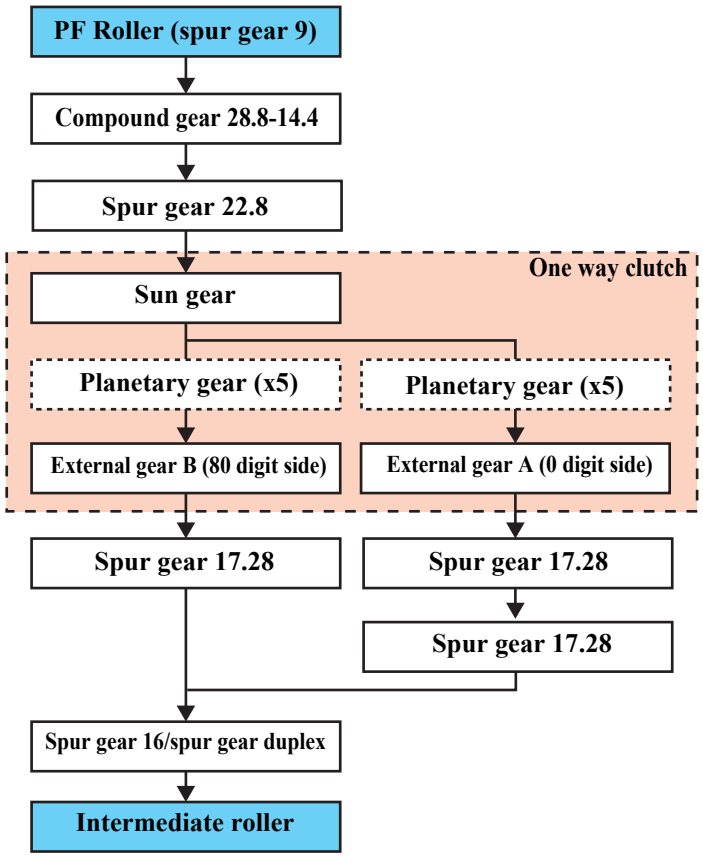


Figure 1-21. Drive Path From PF Roller to Intermediate Roller (1)

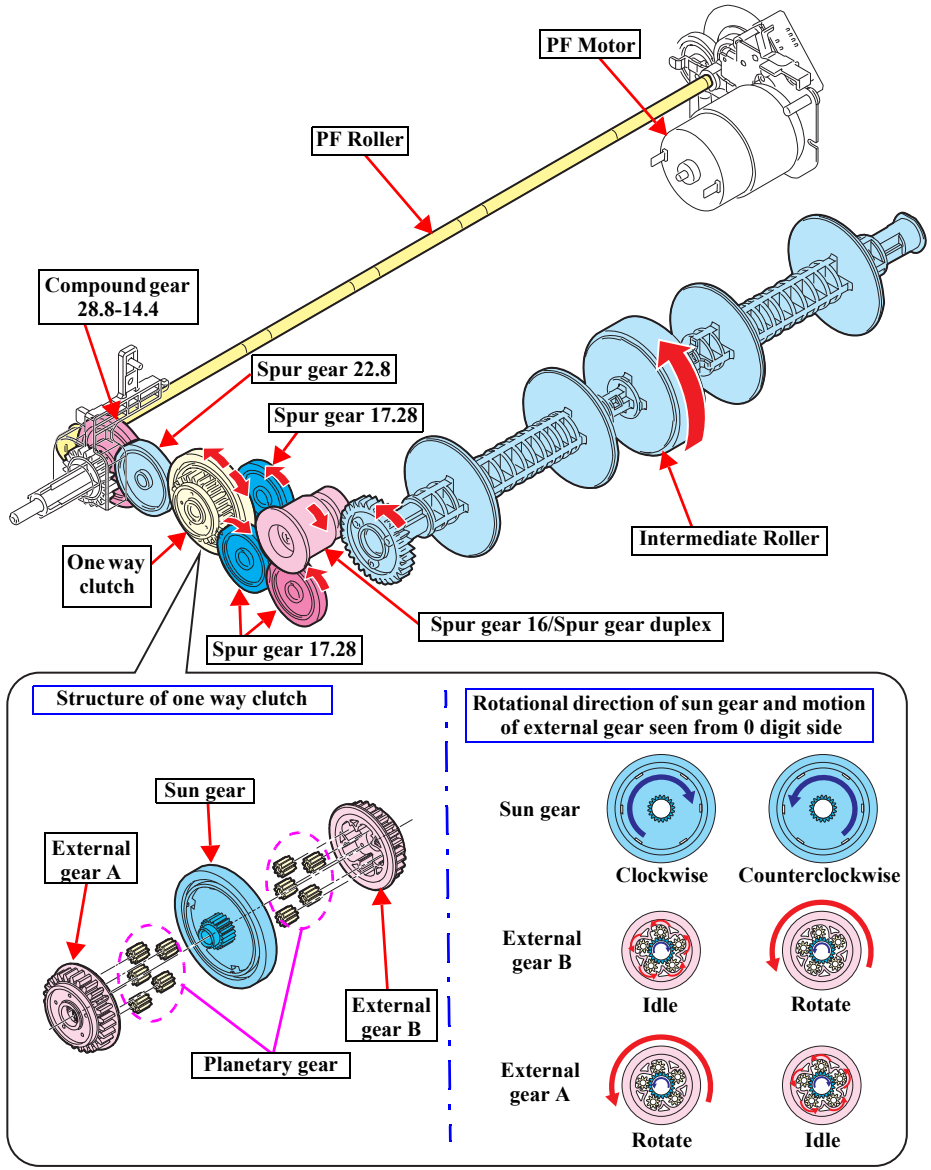


Figure 1-22. Drive Path From PF Roller to Intermediate Roller (2)

DRIVE PATH FROM PF ROLLER TO PICK UP ROLLER (PICK UP ROLLER ASSY SYSTEM)

If the Pick up Roller Assy is always driven by the PF motor, it continues feeding paper without stopping regardless of the progress of printing on the previous sheet. To prevent this, the Slider Trans interrupts the motor drive to the Pick up Roller Assy when the assy needs to stop.

While the Pick up Roller Assy needs to move, the Slider Trans is pulled toward the opposite side of the carriage home with the tension spring. The transmission gear interlocked with the Slider Trans engages with the Pick up Roller driving gear (one way clutch) that moves the Pick up Roller Assy, so the Pick up Roller Assy can be driven by the PF Motor. If the CR Unit pushes the Change Lever to the 0 digit side, the transmission gear disengages from the one way clutch. As a result, the driving force of the PF Motor is shut down.

The CR Unit pushes the Slider Trans to the 0 digit side to stop the Pick up Roller Assy after a sheet of paper is fed into the printer, however, the CR Unit cannot stay at the position because it needs to move for printing. Therefore, instead of the CR Unit, the Change Lever's disengaged status is kept by the cam of the Holder Cam Assy during printing.

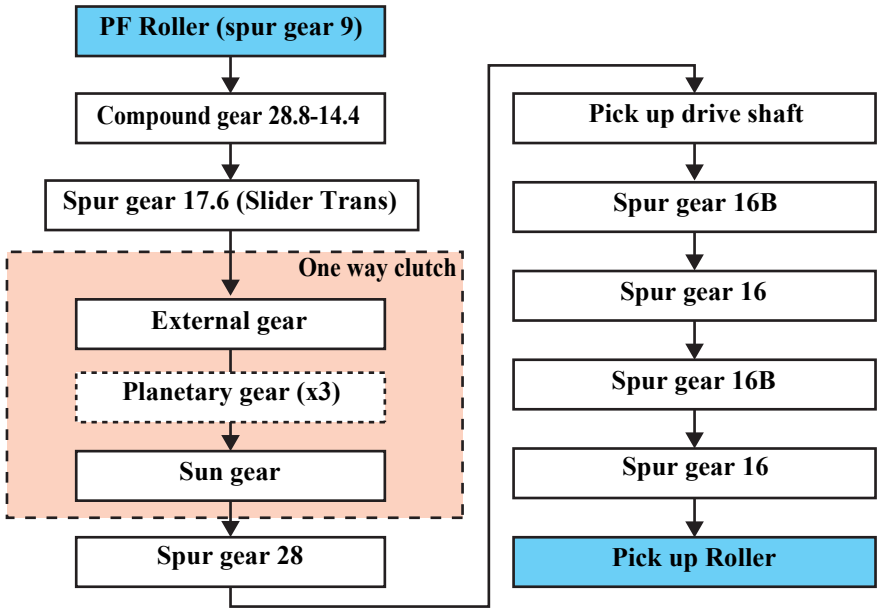


Figure 1-23. Drive path from PF roller to Pick up Roller Assy (1)

The one way clutch controls the Pick up Roller to rotate only in the paper feed direction. The operation principle and the structure are basically the same with the one used in the drive path to the intermediate roller (p 27). Therefore, while the PF Roller is rotating in the direction opposite to the paper feed direction, the Pick up Roller does not rotate even when the drive force is transmitted through the Slider Trans.

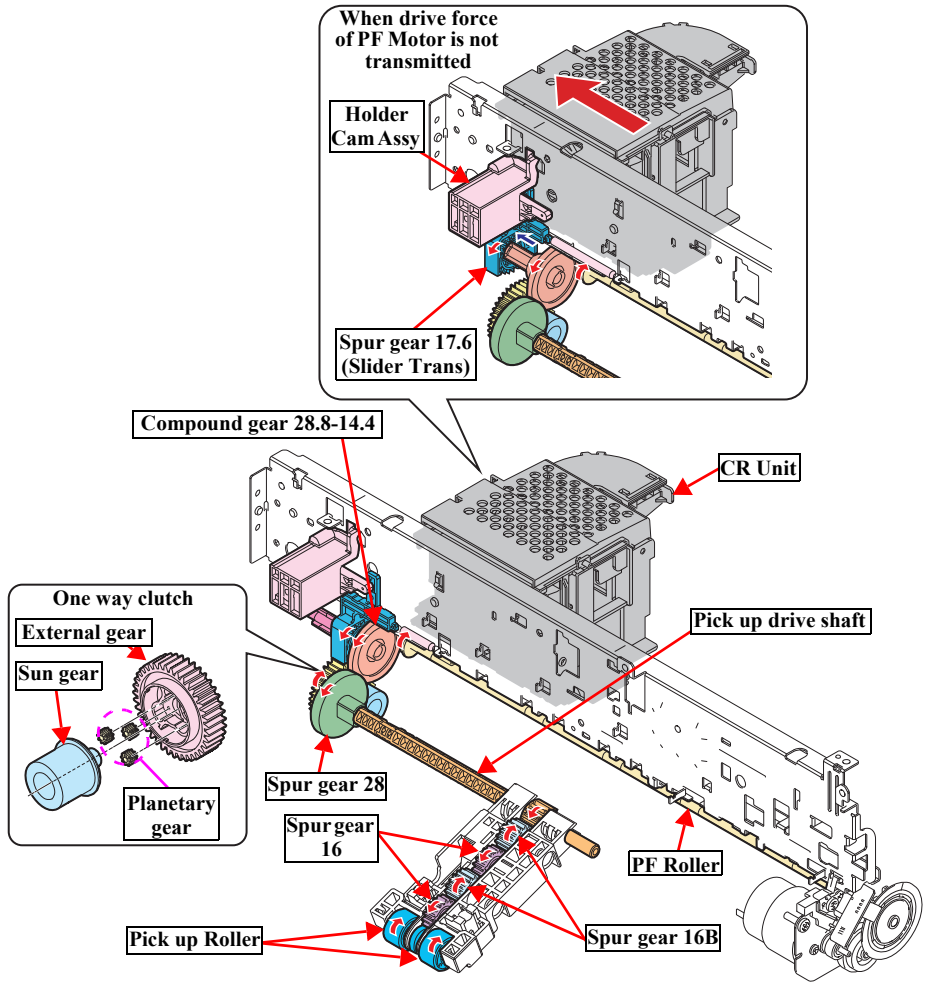


Figure 1-24. Drive path from PF roller to Pick up Roller Assy (2)

1.3.2.1.2 Drive Path of Rear Paper Loading Model

The drive path of the rear paper loading model is mostly the same with the front paper loading model. The driving force of the PF Roller is transmitted to the PF Roller and the EJ Roller through the compound gear and the spur gear, and then transmitted from the PF Roller to the paper feed mechanism. There are two drive paths; duplex unit system (p 30) and ASF Rear system (p 31).

DRIVE PATH FROM PF MOTOR TO PF ROLLER/EJ ROLLER

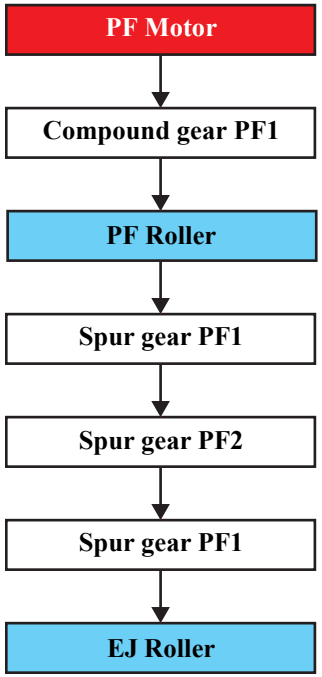


Figure 1-25. Drive path from PF Motor to PF Roller/EJ Roller (1)

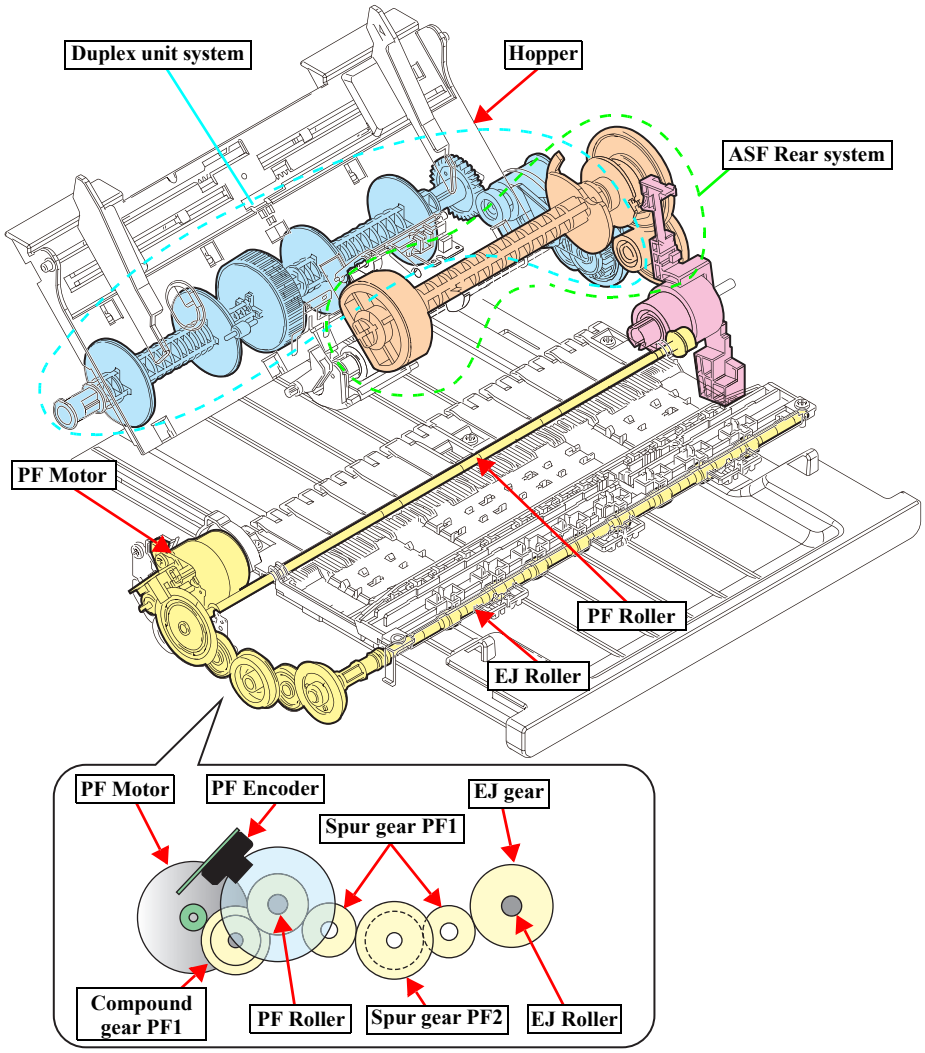


Figure 1-26. Drive path from PF Motor to PF Roller/EJ Roller (2)

DRIVE PATH FROM PF ROLLER TO INTERMEDIATE ROLLER (DUPLEX UNIT SYSTEM)

The intermediate roller always rotates in the paper feed direction because of the one way clutch, regardless of the PF roller rotational direction.

The one way clutch is consist of the sun gear, the external gear (x2) on both sides of the sun gear, and the planetary gear (x5 each) inside the external gear. When the sun gear rotates, either one of the external gears idle being disengaged from the planetary gears, while the external gear on the other side rotates being engaged with the planetary gears. In this way, the one way clutch is designed to rotate either one of the two external gears at a time, and which one to rotate depends on the rotational direction of the sun gear.

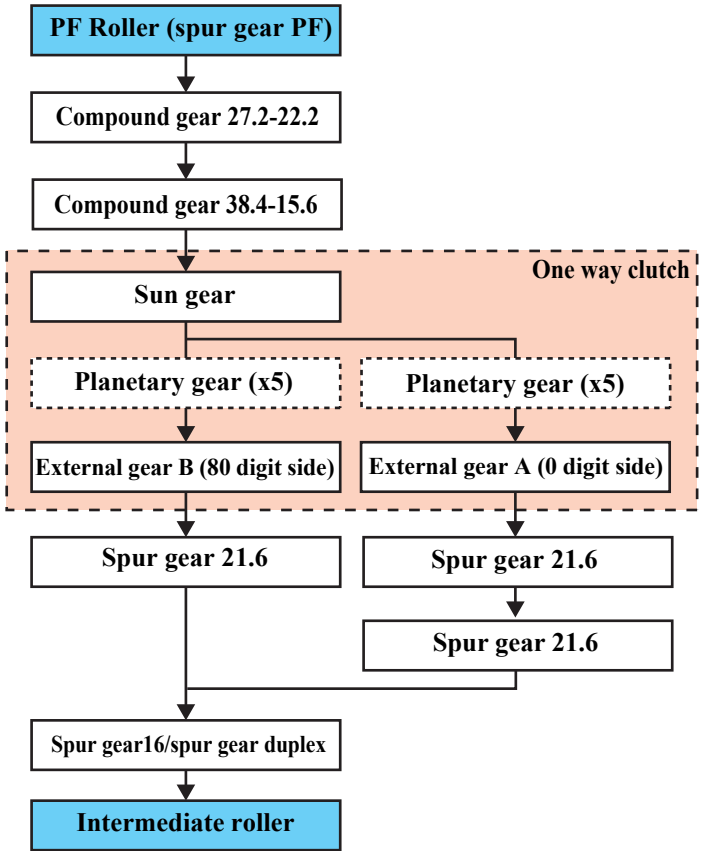


Figure 1-27. Drive Path From PF Roller to Intermediate Roller (1)

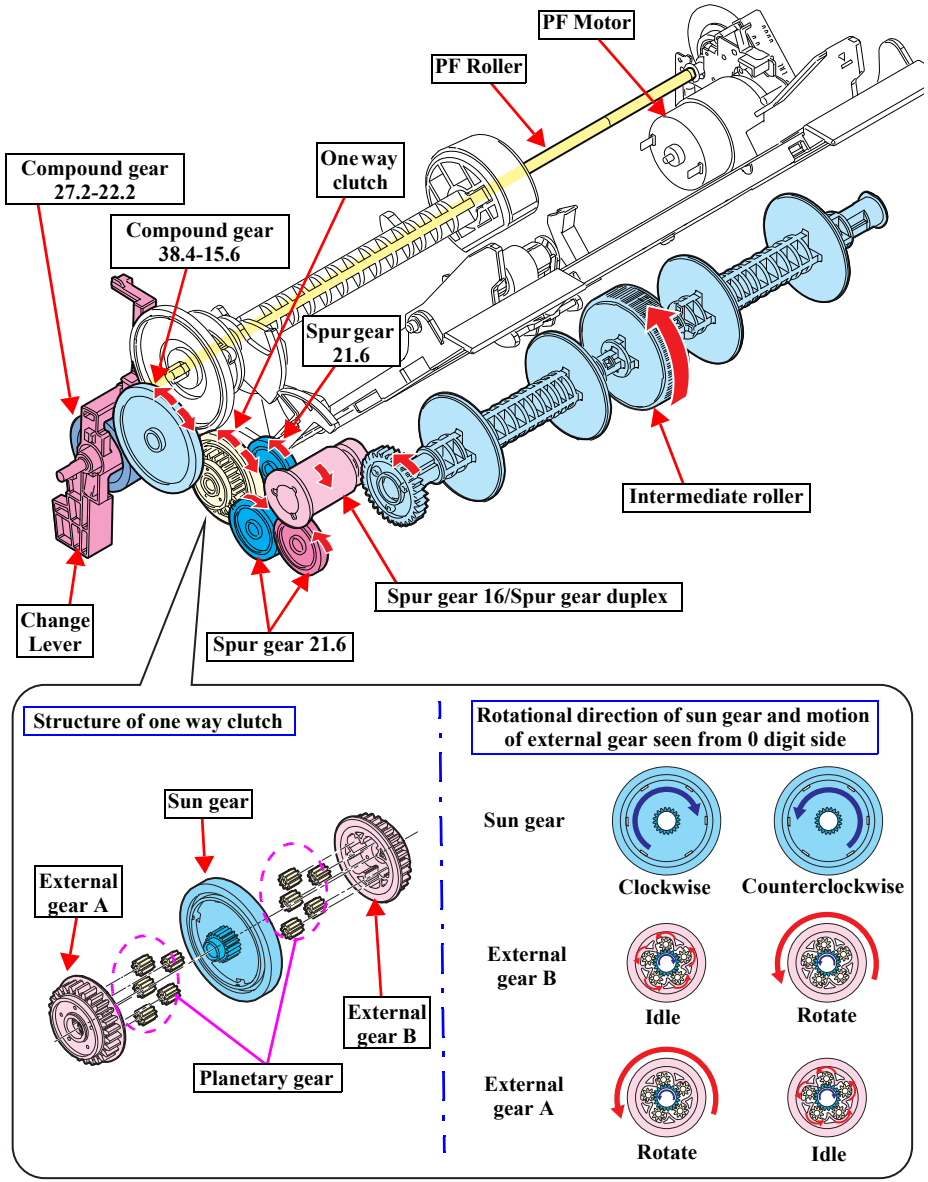


Figure 1-28. Drive Path From PF Roller to Intermediate Roller (2)

DRIVE PATH FROM PF ROLLER TO LD ROLLER (ASF REAR SYSTEM)

The drive force of the PF Motor is transmitted to the LD Roller through the PF Roller, Change Lever (compound gear 27.2-22.2) and the clutch. The Hopper and the Paper Back Lever is driven by the cam linked to the LD Roller.

Since the PF Motor also drives the paper feed mechanism and the ink system mechanism, transmission of the drive force to the LD Roller is controlled by the Change Lever and the clutch so that the LD Roller rotates only when loading paper.*1

Relation between the rotational direction of the PF Motor and the motion of the LD Roller are shown below.

PF Motor rotational direction	Motion of LD Roller
Paper feed direction	The clutch transmits or does not transmit the drive force to the LD Roller in relation to the Change Lever. When transmitted, the LD Roller rotates in the paper feed direction.
Opposite to the paper feed direction	The LD Roller does not rotate since the drive force is disengaged by the clutch.

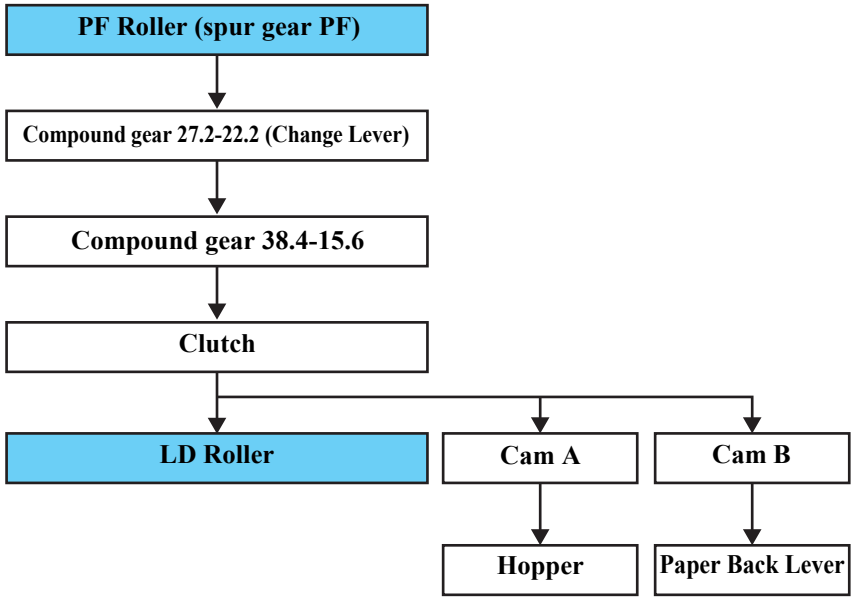


Figure 1-29. Drive Path From PF Roller to LD Roller (1)

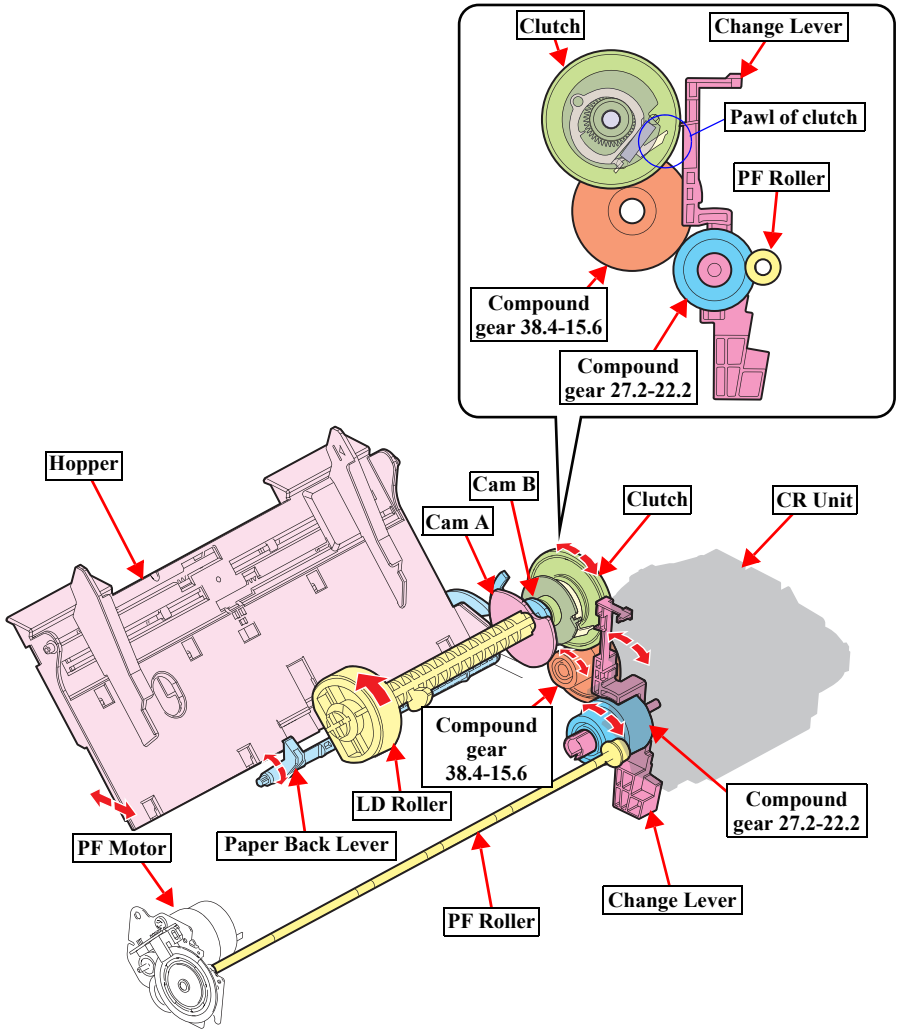


Figure 1-30. Drive Path From PF Roller to LD Roller (2)

*1. See " Operation of Paper Loading Mechanism" (p 32) for more details.

OPERATION OF PAPER LOADING MECHANISM

The following describes how the Change Lever and the clutch work for transmitting or not transmitting the PF Motor drive force to perform paper feeding.

☐ Drive force control by the Change Lever and clutch

When the Change Lever holds the pawl of the clutch (ASF lock state), the clutch is disengaged and the drive force of the PF Motor is not transmitted to the LD Roller.

When the Change Lever releases the pawl of the clutch (ASF unlock/ASF drive state), the clutch is engaged and the drive force of the PF Motor is transmitted to the LD Roller.

☐ Normal operation

While the CR Unit is in the home position, it prevents the Change Lever from leaning toward the front side. Therefore, the Change Lever keeps the ASF lock state regardless of the rotation direction of the PF Motor and the clutch is disengaged to shut off the drive force of the PF Motor to the LD Roller.

Even when the CR Unit is not in the home position for printing or other reason, the ASF lock state is kept to shut off the drive force to the LD Roller as long as the PF Motor rotates CW (in the paper feed direction).

☐ Operation at paper loading

When the printer starts loading paper, the CR Unit moves away from the home position and the PF Motor starts rotating CCW. This causes the Change Lever to lean toward the front side and the ASF is unlocked. Then, the clutch is engaged, and the drive force of the PF Motor is transmitted to the LD Roller.

After the ASF is unlocked, the PF Motor starts rotating CW, and the LD Roller starts rotating in the paper feed direction. The LD Roller and the Retard Roller separate a sheet of paper from the other sheets on the Hopper and feed it into the printer. At this point, the Change Lever has returned to the original position (leaning toward the rear side).

After the LD Roller rotates once, the Change Lever holds the pawl of the clutch and the ASF is locked. Then, the drive force of the PF Motor to the LD Roller is shut off, and the paper loading ends.*1

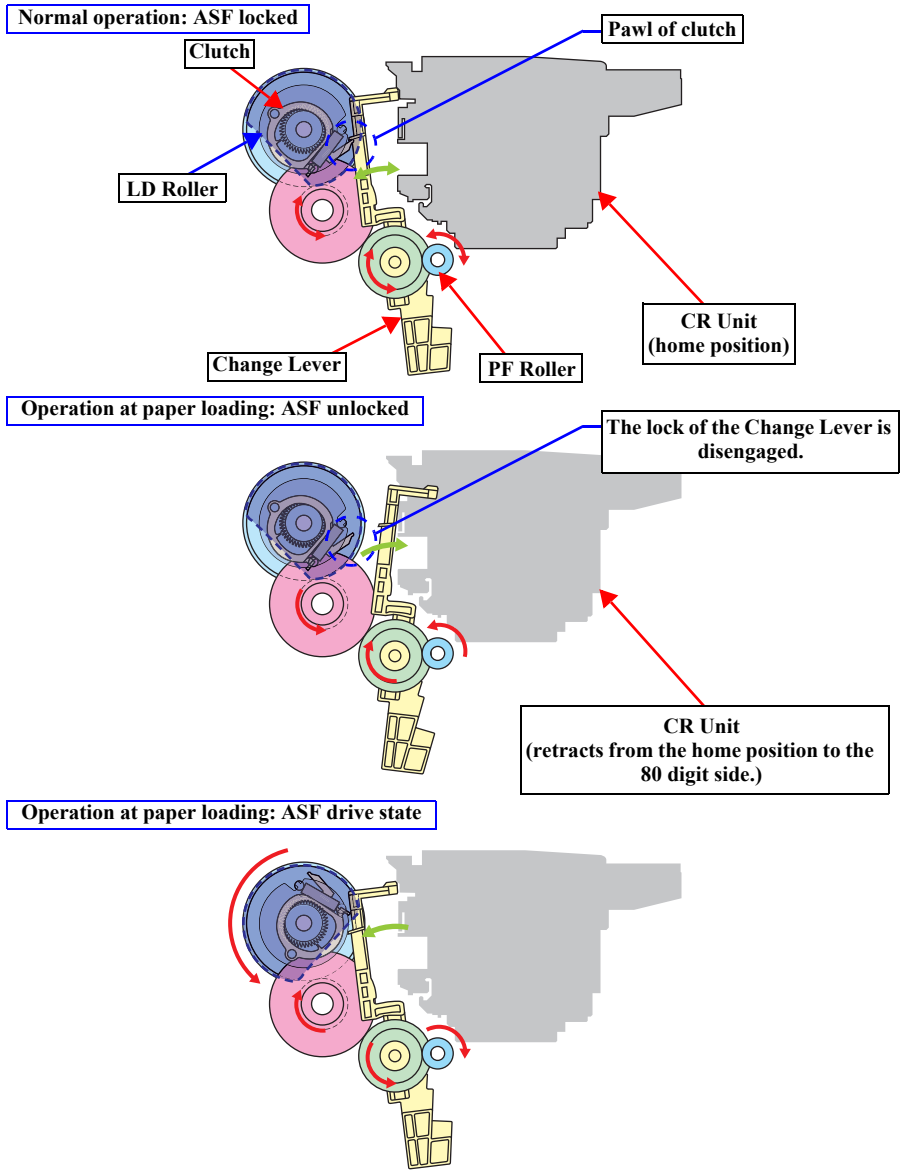


Figure 1-31. Operation of Paper Loading Mechanism (seen from 80 digit side)

*1. The LD Roller is shaped in a character of D. Because of this shape, the LD Roller and Retard Roller can release a sheet when the sheet reaches the PF Roller so that the paper feed by the PF Roller is not affected.

1.4 Ink System Mechanism

1.4.1 Overview

1.4.1.1 Mechanical Configuration

The ink system mechanism of this product employs the sliding type*1 and consists of the CR Lock mechanism, wiper mechanism, capping mechanism, and pump mechanism.

All the mechanisms are driven by the PF Motor. The drive force of the PF Motor is transmitted to each mechanism via transmission parts, such as the pump-drive compound gear, clutch gear, and cam. Additionally, ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series utilize a user-replaceable Maintenance Box (waste ink pad) that retains waste ink from the cap.

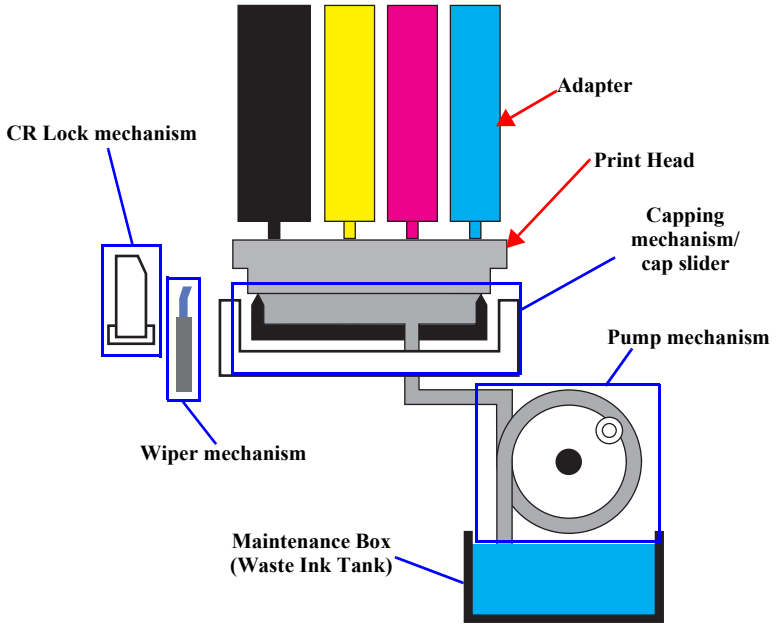
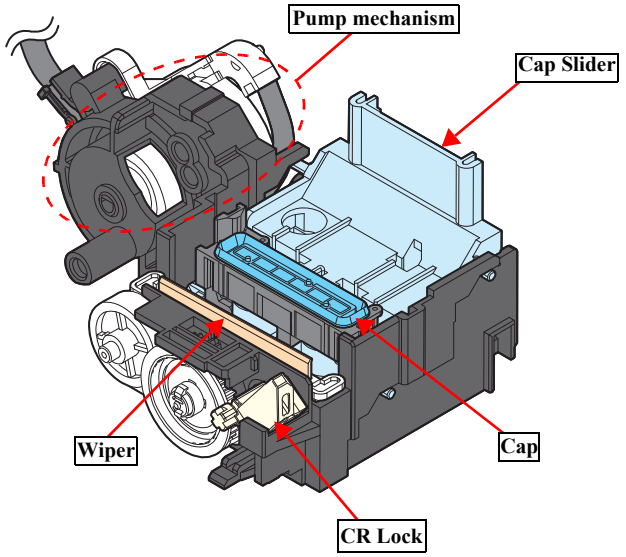


Figure 1-32. Ink system mechanism (simplified model)

*1. There are two types of the capping: sliding type and direct acting type. In the sliding type, the Print Head is capped (the cap is moved up) when the CR pushes the cap slider. In the direct acting type, the cap moves up and down independently of the CR and caps the Print Head.

Front paper loading model (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/



Rear paper loading model (ET-2850/L4260/ST-C2100 series)

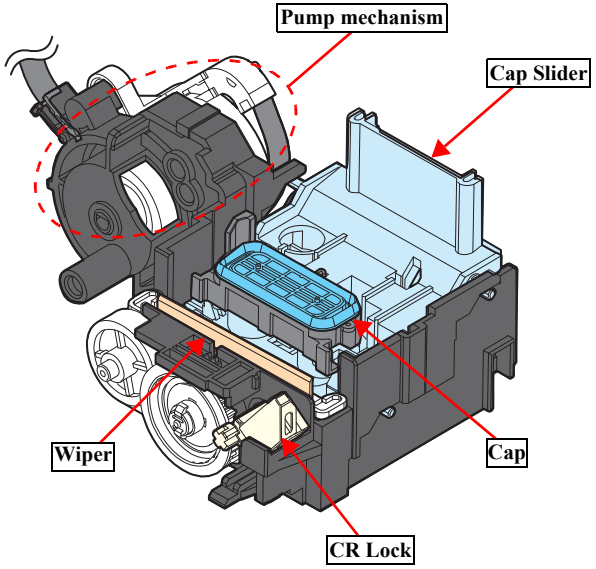


Figure 1-33. Ink system mechanism

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1.4.1.2 Cleaning

Clogging of nozzles on the Print Head occurs due to air bubbles generated inside the ink path of the Print Head, or an increase in ink viscosity caused by drying of ink. To prevent the clogging or clean the clogged nozzles, various types of cleaning (CL) are performed at different times as described in the table below.

Table 1-6. Print Head cleanings

CL Type		Purpose	Explanation
Initial ink charge		To fill the head with ink	Performed after the printer is powered at the first time.
Timer cleaning (TCL)*1		To eject bigger air bubbles inside the Print Head	Performed according to the printing time and time elapsed since the last cleaning.
Manual cleaning (MCL)*2	CL1	To restore a proper convex meniscus of ink at the tip of nozzles	Main suction*3(short) → Wiping*4 → Cap suction*5 → Small amount suction*6 → Cap suction
	CL2	To eject air bubbles inside the Print Head	Main suction (middle) → Wiping → Cap suction → Small amount suction → Cap suction
	CL3*7	To eject air bubbles inside the ink supply nozzles	Main suction (long) → Wiping → Cap suction → Small amount suction → Cap suction
Regular cap suction		To prevent ink leakage from the cap	Sucks out ink pooling inside the cap due to head flushing operations or the like.
Flushing		To prevent ink inside non-used nozzles from increasing its viscosity	The Print Head is controlled to fire ink droplets from the nozzles periodically.

*1. To save ink, the time between the timer cleanings is becoming longer on the most newer printers. This is achieved by adopting the plastic that have the function to suppress the growth of air bubbles inside the Print Head and by improving in shape of the ink supply nozzles.

*2. When carrying out manual cleaning, CL1 → CL2 → CL3 are automatically selected and performed in order. However, in the following conditions, they may not be carried out in this order.
(EX) ·CL3 may change to CL2 depending on the ink remaining quantity and conditions of maintenance counter and others.
·If the interval between cleaning is more than a specified period, then this may not be counted as continuous.

*3. "Main suction" is a suction operation that sucks up ink from cartridges to the Print Head, and at the same time, sucks out air bubbles inside the Print Head and thick ink inside the nozzles.

*4. "Wiping" removes ink attached to the Print Head nozzle surface.

*5. "Cap suction" is a suction operation that sucks ink out of the cap.

*6. "Small amount suction" is a suction operation performed to eject tiny air bubbles from the Print Head. Ink amount sucked by this operation is less than that by the "Main suction".

*7. Some off-carriage type printers use a choke valve mechanism to perform the cleaning.

1.4.1.3 Controlling Waste Ink

Ink used by cleanings (waste ink) is absorbed by the waste ink pad. If the absorbed amount exceeds the limit of the waste ink pad, leakage of the waste ink can occur. To prevent this, the printer firmware has a counter to counts the waste ink amount taking evaporation into account, The count value is retained in the Maintenance Box CSIC (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only) and in the EEPROM.

Another waste ink produced by borderless printing is absorbed by absorbers attached on the Paper Guide Front and the rear side of the printer. For the borderless printing, the printer makes an image slightly expand all the way to the edge of the paper, therefore, the image edge portions not printed on paper must be absorbed. Some printers also have the counter for this waste ink amount.

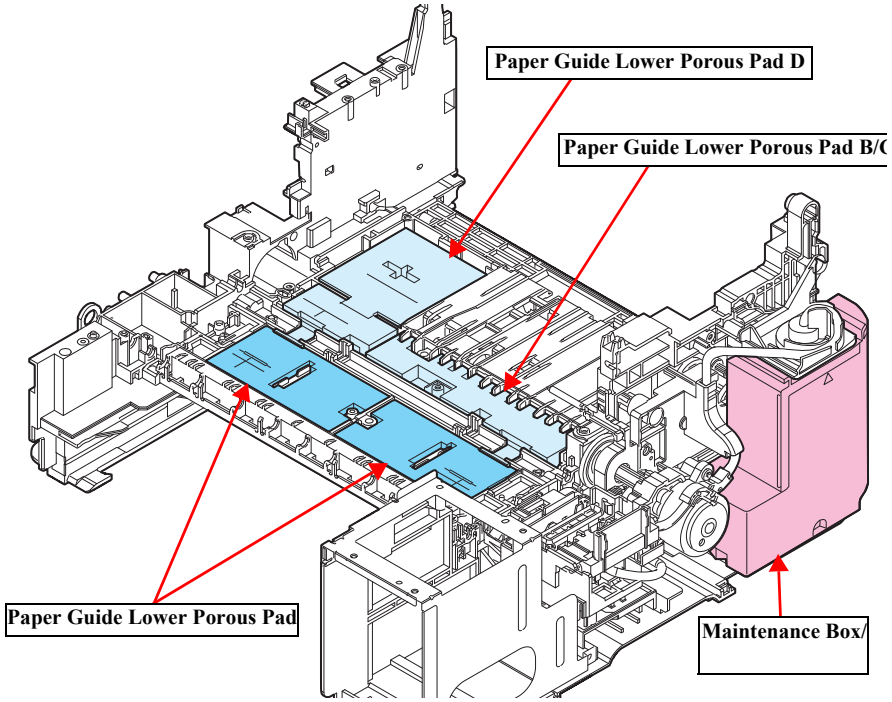


Figure 1-34. Position of Waste Ink Pad for Borderless Printing

If each counter reaches its limit, a maintenance error occurs and replacement of the maintenance box, or replacement of the waste ink pad and counter reset will be required.

1.4.2 Operating Principles

1.4.2.1 Drive Path

The ink system mechanism is driven by the PF Motor.

To the pump mechanism, the drive force is constantly transmitted via the PF Roller, compound gear, Pump driving gear, and etc.

The drive force is transmitted to the wiper mechanism and CR Lock mechanism via the PF Roller, spur gear, compound gear equipped with a clutch, and cam. The clutch works in accordance with movement of the cap slider and cam, and interrupts the drive force upon completion of the movement.

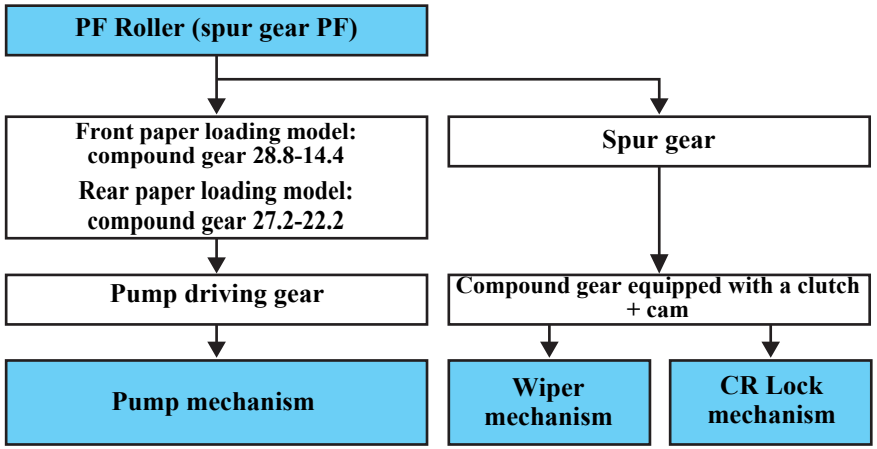

PF Roller (spur gear PF)
Front paper loading model: compound gear 28.8-14.4
Rear paper loading model: compound gear 27.2-22.2
Spur gear
Pump driving gear
Compound gear equipped with a clutch + cam
Pump mechanism
Wiper mechanism
CR Lock mechanism

Figure 1-35. Drive path (1)

The table below shows how each mechanism operates according to the rotational direction of the PF Motor.

Table 1-7. PF motor rotational direction and operation of the ink system

Mechanism	Rotational direction of the PF Motor*1	
	CW	CCW
Wiper	Moves down	Moves up (wiping position)
Pump	Release	Suction
CR Lock	Unlocks the CR	Locks the CR

*1. Rotational direction seen from output shaft

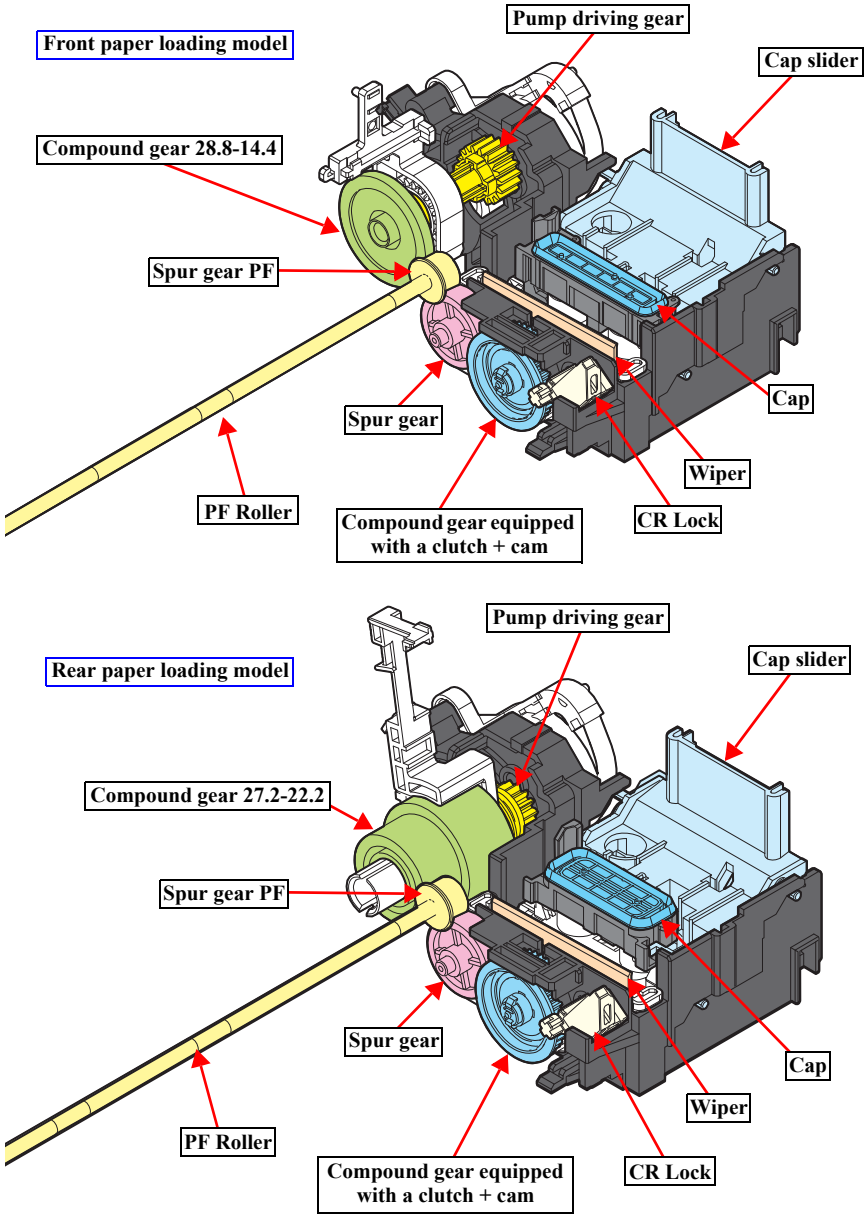


Figure 1-36. Drive path (2)

Confidential

1.4.2.2 Operation of Each Mechanism

1.4.2.2.1 Pump Mechanism

The pump mechanism sucks ink from the Print Head at cleaning.

The drive force from the pump-drive compound gear is transmitted to the pump shaft via the timing plate. This timing plate allows the pump-drive compound gear to start rotating at the different timing from the pump shaft. After the PF Motor rotates for a while, the pump unit starts its operation.

When the pump motor rotates counter-clock wise as seen from the output-shaft side of the motor, the drive force via the pump-drive compound gear rotates the pump pulley to flatten the tube to suck the air (to generate negative pressure) inside the tube. When the pump motor rotates clock wise, the pump pulley does not flatten the tube, and the negative pressure is released.

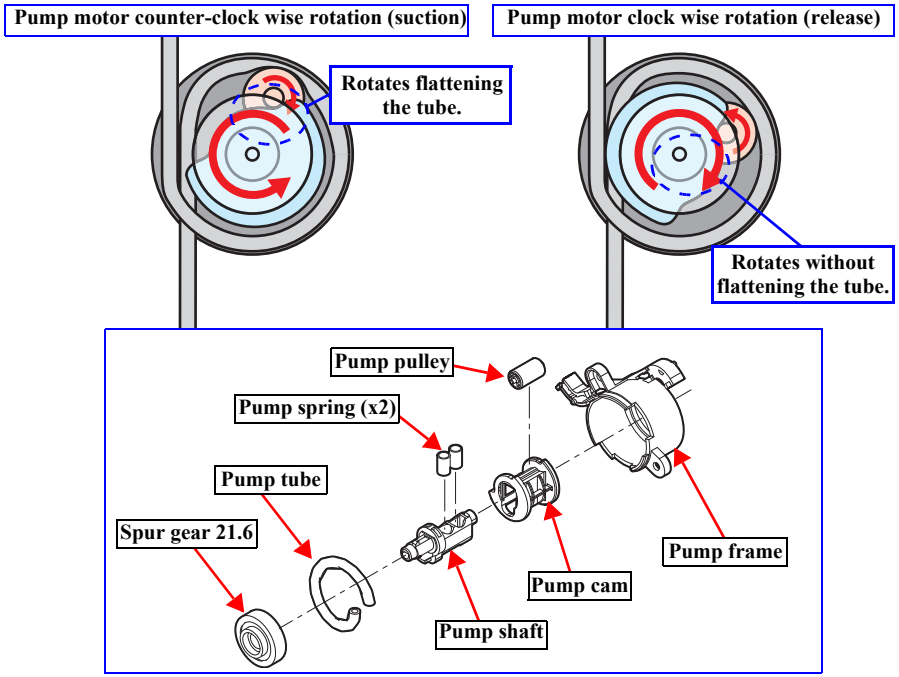


Figure 1-37. Pump mechanism operations

1.4.2.2.2 Capping Mechanism

When the CR Unit returns to its home position, the cap slider pressed by the CR Unit moves upward to cap the Print Head. When the CR Unit moves away from the home position, the cap slider moves downward and the Print Head is uncapped and released from the vacuum state. The ink system for this product does not have a valve for canceling the vacuum state, but the cap slider moved by the CR Unit provides the same function as the valve.

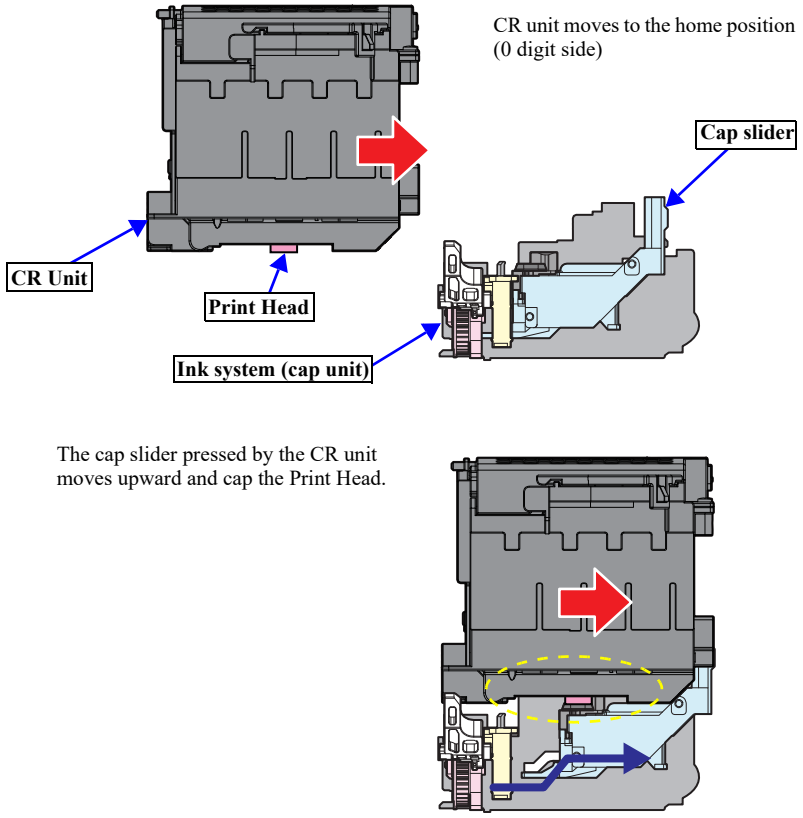

CR unit moves to the home position
(0 digit side)
Cap slider
CR Unit
Print Head
Ink system (cap unit)
The cap slider pressed by the CR unit moves upward and cap the Print Head.

Figure 1-38. Capping mechanism operations

Confidential

1.4.2.2.3 Wiper Mechanism

The wiper moves in synchronization with the capping operation. The PF motor drive transmitted through the compound gear set and cam equipped with clutch moves the wiper up or down.

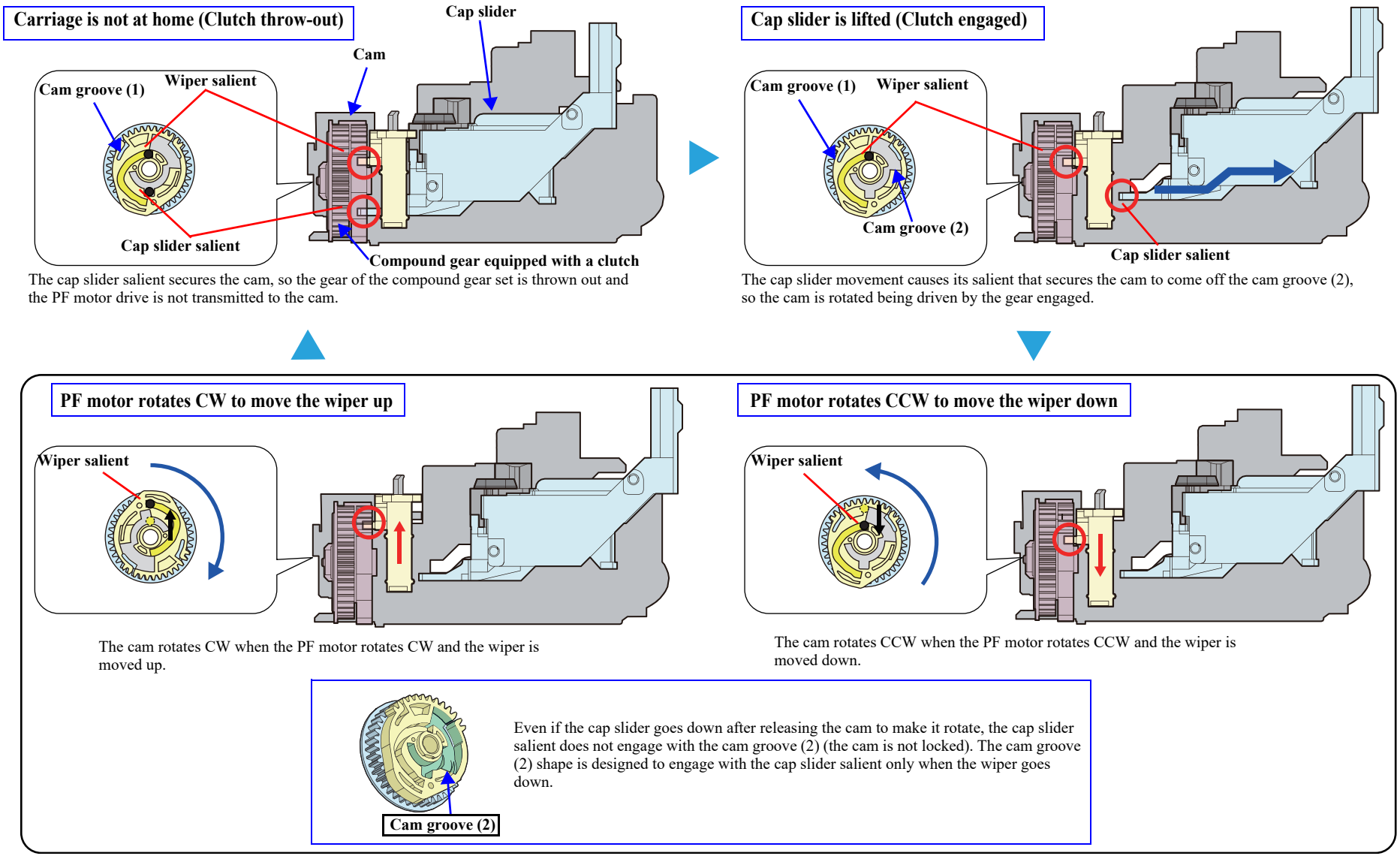

Carriage is not at home (Clutch throw-out)
Cap slider
Cam
Cam groove (1)
Wiper salient
Cap slider salient
Compound gear equipped with a clutch
The cap slider salient secures the cam, so the gear of the compound gear set is thrown out and the PF motor drive is not transmitted to the cam.
Cap slider is lifted (Clutch engaged)
Cam groove (1)
Wiper salient
Cam groove (2)
Cap slider salient
The cap slider movement causes its salient that secures the cam to come off the cam groove (2), so the cam is rotated being driven by the gear engaged.
PF motor rotates CW to move the wiper up
Wiper salient
The cam rotates CW when the PF motor rotates CW and the wiper is moved up.
PF motor rotates CCW to move the wiper down
Wiper salient
The cam rotates CCW when the PF motor rotates CCW and the wiper is moved down.
Cam groove (2)
Even if the cap slider goes down after releasing the cam to make it rotate, the cap slider salient does not engage with the cam groove (2) (the cam is not locked). The cam groove (2) shape is designed to engage with the cap slider salient only when the wiper goes down.

Figure 1-39. Wiper mechanism operation

1.4.2.2.4 CR Lock Mechanism

The CR Lock operates in synchronization with the cap unit. It locks or unlocks the CR using the PF motor drive force transmitted through the cam of the compound gear set equipped with a clutch. For information on how the cap slider and the cam are related to each other, see "1.4.2.2.3 Wiper Mechanism" (p 37).

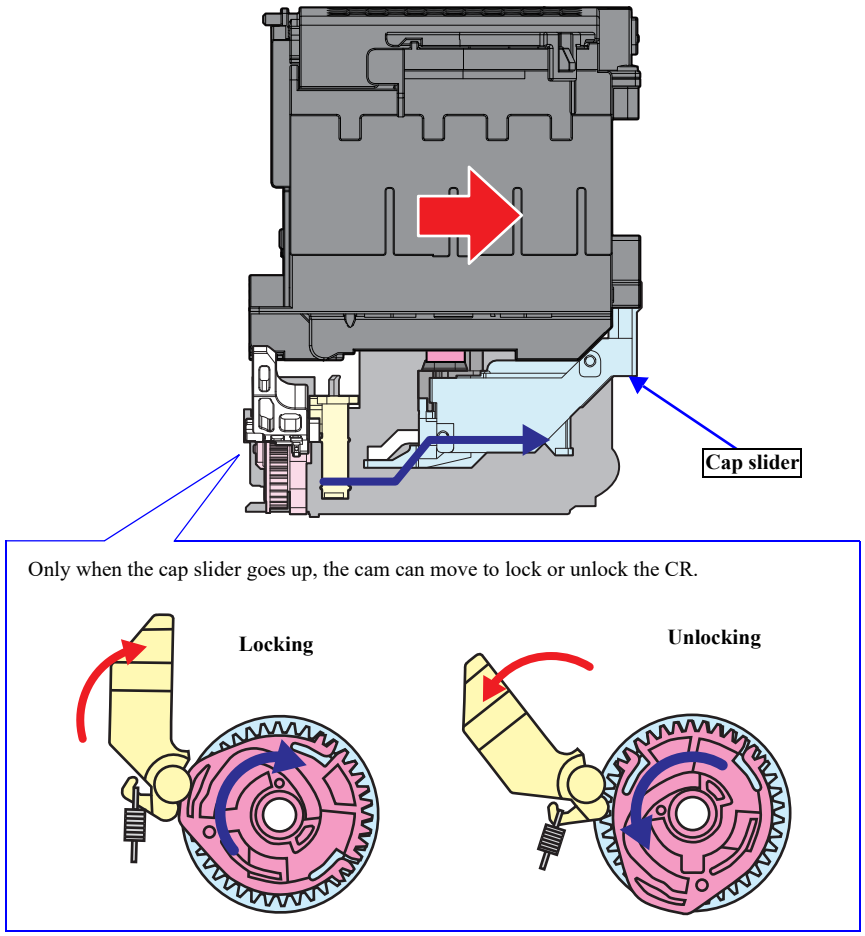


Figure 1-40. CR Lock mechanism operation

CHAPTER

2

TROUBLESHOOTING

2.1 Troubleshooting

This section describes the troubleshooting workflow and fatal error information.

2.1.1 Troubleshooting Workflow

The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.

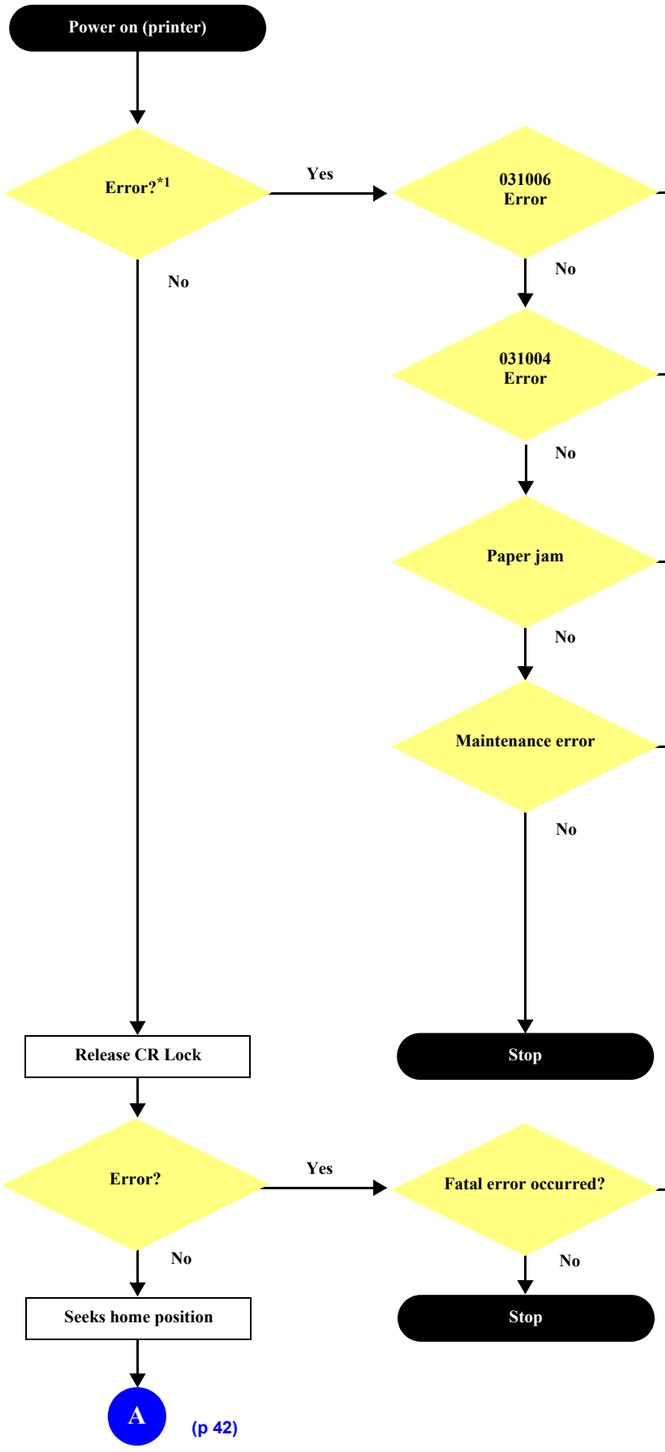
- **This flowchart is compiled based on the following contents.**
  - **Our experience regarding the quality problem.**
  - **ESK's repair data.**
  - **Printer Mechanism specification for the product.**
- **If the reason for the return is evident, first check the phenomenon user claims recurs, then proceed to the troubleshooting.**
- **If the SCN error is the reason for the return, since the printer may be the cause of the error, check the Fatal Error Code history saved in the EEPROM with the adjustment program before starting the troubleshooting.**

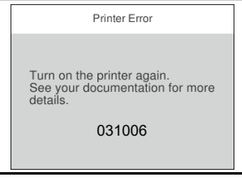
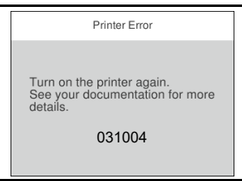
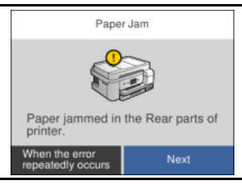
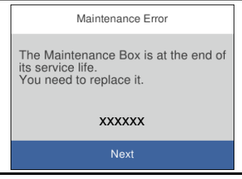
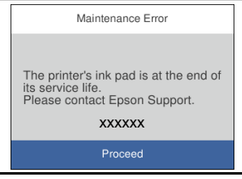
☐ " Workflow when the Power is ON (Printer) (p41)"
☐ " Workflow for Scanner Errors when the Power is ON (p44)"
☐ " Workflow for Errors when Printing Starts (p45)"

2.1.1.1 Workflow when the Power is ON (Printer)

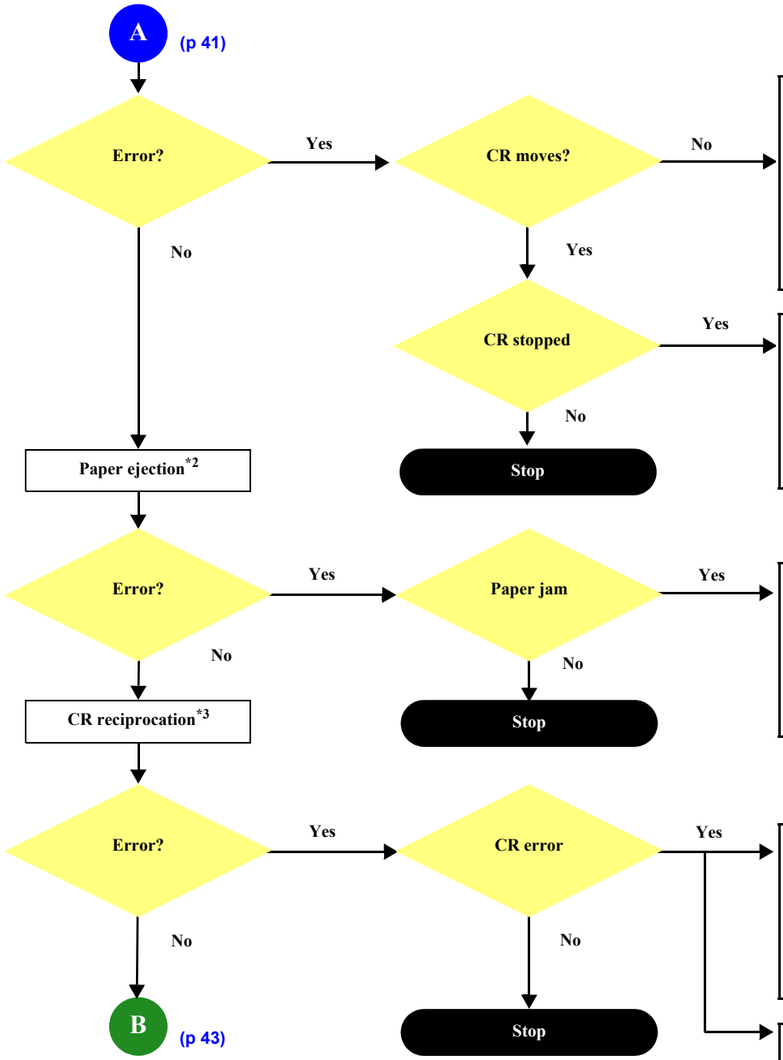
CHECK

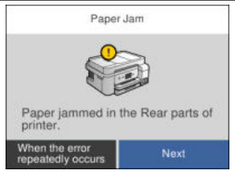
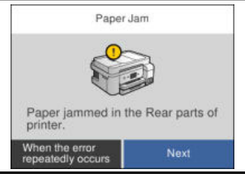
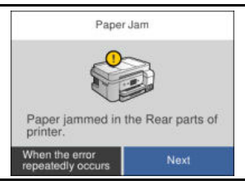
- **Fatal Errors may occur during the Mechanism operation. When an error occurred other than the timing shown below, check the Mechanism for other causes.**
- **See "2.1.1.2 Workflow for Scanner Errors when the Power is ON (p44)" since the scanner operates during the power-on sequence of the printer.**
- **Displayed screen may differ by the model.**



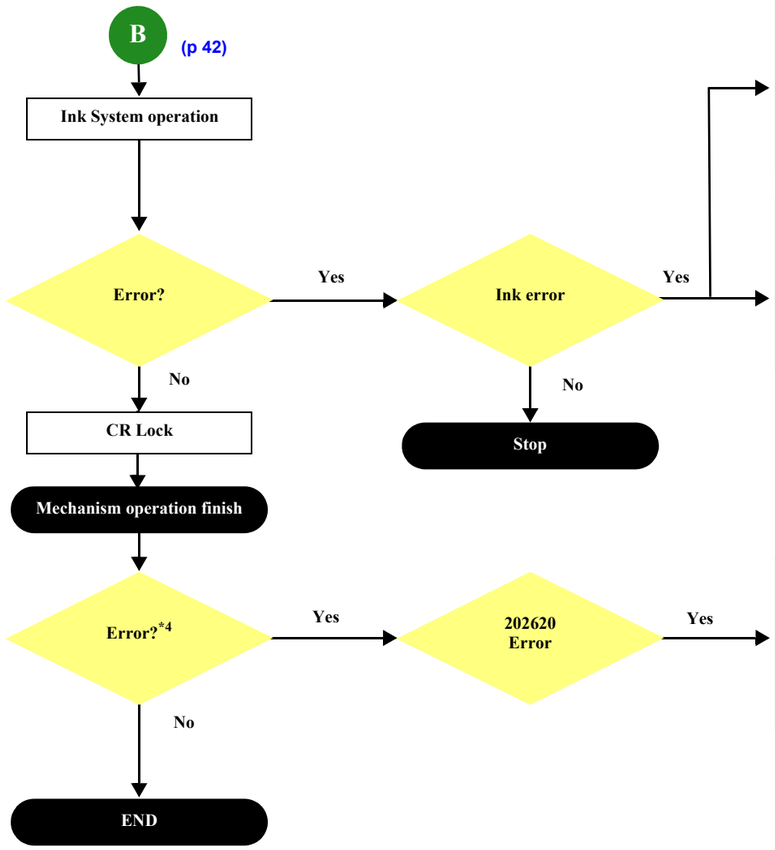
	Blowout of a fuse of the Main Board	■ Check disconnection, breakage, slant connection, or damage contact of the Head FFC. ■ Print head is broken. ■ Replace the Main Board.
	Detects abnormality of the Head Thermistor.	■ Check disconnection, breakage, slant connection, or damage contact of the Head FFC. ■ Print head is broken. ■ Replace the Main Board.
	■ Paper jam ■ PE Sensor adjustment value abnormality	■ Check if the PE Sensor is broken, or its cable is disconnected, broken or connected at an angle. ■ Replace the Main Board.
	Maintenance error	Replace the Maintenance Box.
	Main or borderless maintenance error	Reset the Main or Borderless Waste Ink Pad Counter.
	1. PF Motor did not rotate. (Error Code: 000041) 2. PF Motor rotated too fast. (Error Code: 000041) 3. PF Motor rotated. (Error Code: 000043)	1. Disconnection of the PF Motor Connector, load is too large for the paper feed mechanism. 2. Replace the PF Encoder FFC, the PF Encoder. 3. Replace the PF Motor. Common: Replace the Main Board.

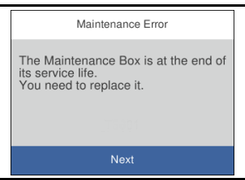
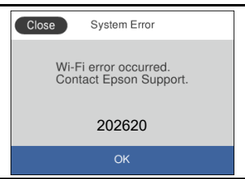
Note "*1": Mechanism does not operate yet.



	CR did not function.	■ Remove the tape securing the CR if the error occurs when the printer is powered on for the first time. ■ Check whether the CR Lock is released. If not, the PF Motor or the Ink system is broken. ■ Check the mechanical load of the CR manually, and check the Ink system also. ■ CR Motor disconnect, replace the cable. ■ Replace the CR Motor. ■ Replace the Main Board.
	1. Fatal Error (Error Code: 000025) 2. Fatal Error (Error Code:000023 [Stops with noises.]) 3. Fatal Error (Error Code: 000031)	1. Check whether any obstacle exists in the CR motion range. 2. Check whether any problem occurred to the CR Lock and Ink System. 3. Check if the Timing Belt is loose. 4. Clean or replace the CR Encoder Scale. 5. Replace the Main Board.
	PE Sensor detected paper presence Note PF Motor rotates for a while (longer than normal), and then the error occurs.	■ Check if any obstacle exists in the Paper Path. Remove it if any. ■ Check PE Sensor FFC disconnection/breakage, or replace the FFC. ■ Replace the PE Sensor. ■ Replace the Main Board.
	Paper jam error occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note Perform the corresponding repair.
	Fatal Error of CR system occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note Perform the corresponding repair.

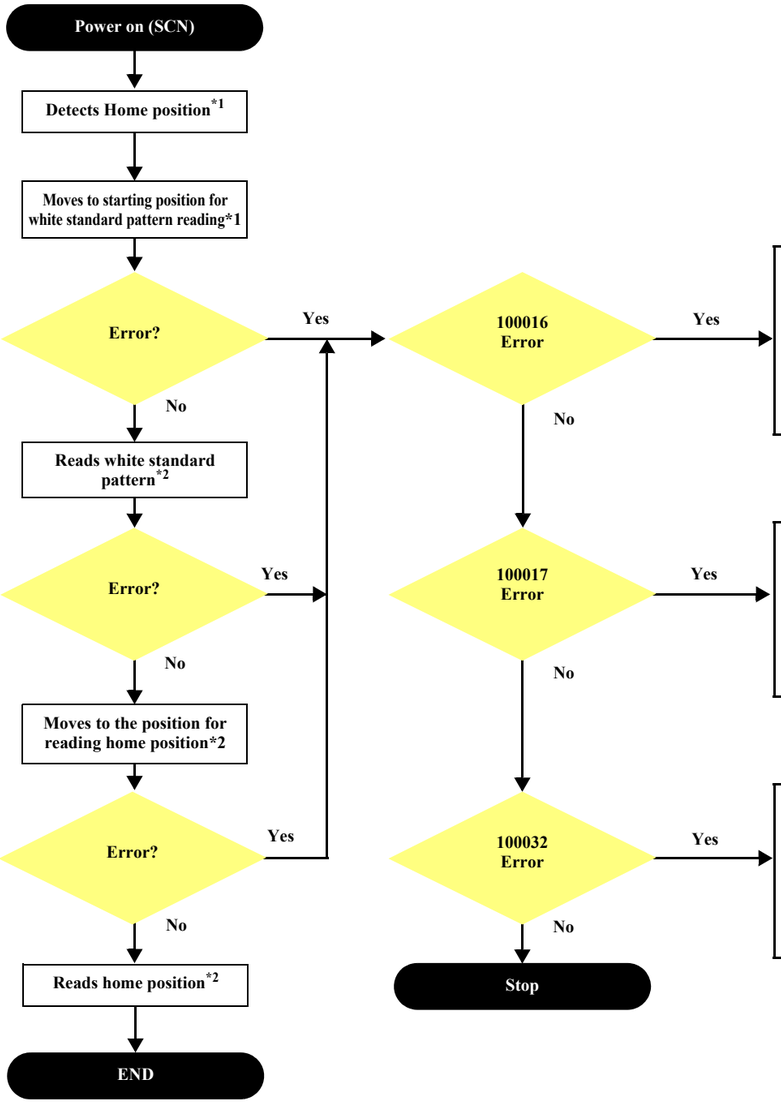
Note "*2": Performed if an abnormality occurred the last time the printer was powered off.
"*3": CR Unit reciprocates two times quickly when environmental temperature is lower than 5°C or when initial charge is not performed yet.



	<Message> Fill ink tank(s) with ink up to the upper line. →Select the color(s) you refilled.	Refill the ink tank, then select the refilled color on the panel to reset the ink counter.
	Maintenance Error <Message> Maintenance Box is at the end of its service life. You need to replace it. EWMB2 (model number)	Replace the Maintenance Box.
	Wireless LAN Board is broken.	■ Check the connection of the Wireless LAN Board. ■ Replace the Wireless LAN Board.

Note "*4": Occurs five to six seconds after the completion of the mechanism operation.

2.1.1.2 Workflow for Scanner Errors when the Power is ON



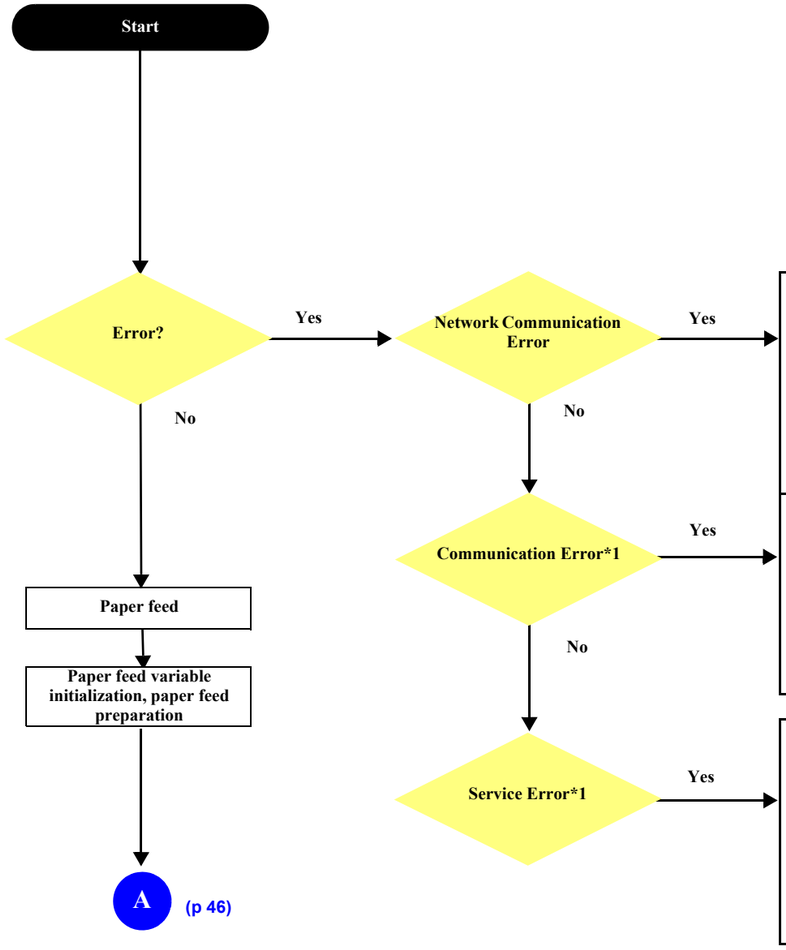
CHECK

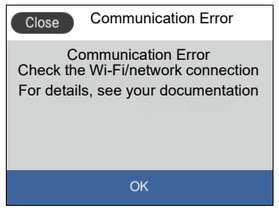
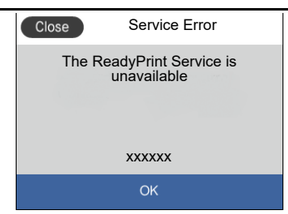
- **The scanner initial operation and the printer initialization are performed in parallel when the power is turned on.**
- **Depending on the error type, a scanner error may occur after the printer was repaired because some of the printer error indications have higher priority (and vice versa).**
- **For repair, replace the SCN Unit.**
- **Measurement failure does not occur when turning the power on. The measurement sequence occurs when entering the power saving mode.**

Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. 100016	Home position detection error ■ SCN CR cannot move to the home position because load is too large. ■ CIS is broken (cannot read the white standard pattern and home position pattern).	1. Turn the power on with the Document Cover opened. 2. Check if the CIS moves to the left to read the white standard/home patterns. 3. Check if the emission color of the CIS is white (not greenish, reddish, or bluish). If the light does not look like white, check the SCN FFC for damage, disconnection or skew. 4. Replace the SCN Unit with a new one. 5. Replace the Main Board with a new one.
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. 100017	Contact detection distance exceeded ■ Contact detection to the right side has not been completed properly. ■ Wheel Train of the Drive Mechanism is detached or broken. ■ SCN Motor Wheel Train is detached or broken.	1. Turn the power on with the Document Cover opened. 2. Check if the SCN CR reaches (comes in contact with) the right side. 3. Check the Wheel Train of the Drive Mechanism for damage. 4. Check the SCN FFC for damage, disconnection or skew. 5. Replace the SCN Unit with a new one. 6. Replace the Main Board with a new one.
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. 100032	LED light lighting failure ■ SCN FFC disconnection, breakage, slant connection, or damaged contact (CN409). ■ CIS is broken.	1. Check the color of the LED at power-on. 2. Check the scanner FFC for damage, disconnection or skew. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.

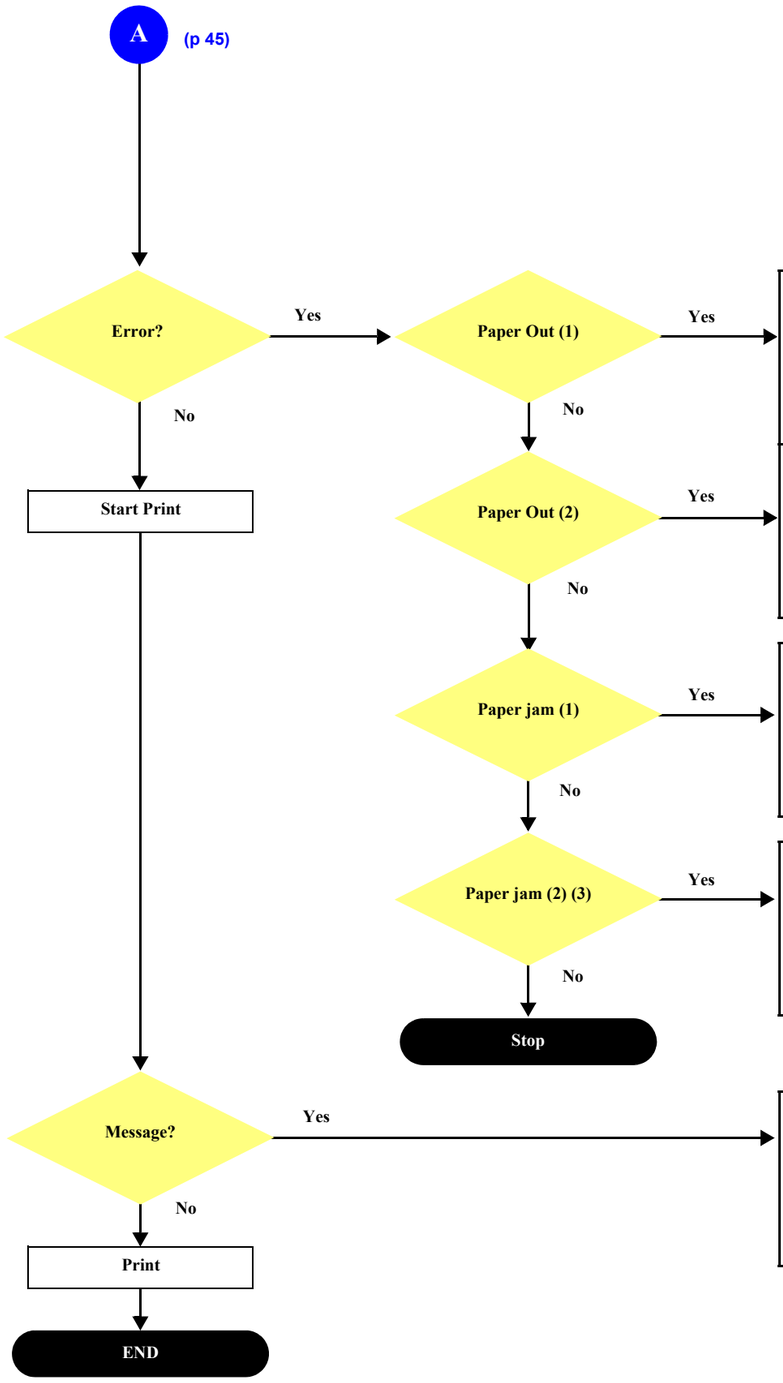
Note "*1": CIS does not light up.
"*2": CIS lights in greenish white.

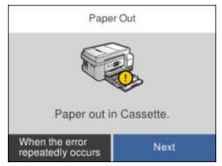
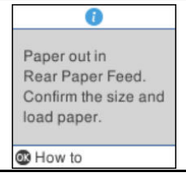
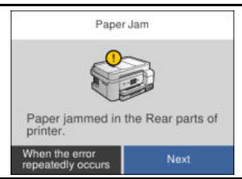
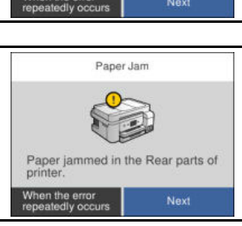
2.1.1.3 Workflow for Errors when Printing Starts



	Communication Error ■ Network problem occurred	■ No need for repair actions at repair site. (It does not mean hardware failure. User needs to check network settings and network connection status.)
	Subscription Error : Subscription communication error (950140) ■ A communication error with the subscription server occurred.	■ No need for repair actions at repair site. (It does not mean hardware failure. User finds solution on subscription portal site or contacts the call center for solutions.)
	1. Subscription Error : Subscription service error (Opt-Out) (950141) - Received Opt-out from subscription server. 2. Subscription Error : Subscription service error (Halting) (950142) - Received halt from subscription server. 3. Subscription Error : Subscription service error (Unregistered) (950143) - Received unregistered from subscription server. 4. Subscription Error : Subscription service error (Starting up) (950144) - During communication with the subscription server at startup.	■ No need for repair actions at repair site. (It does not mean hardware failure. User finds solution on subscription portal site or contacts the call center for solutions.)

Note "*1": ET-4850U/ET-2850U only



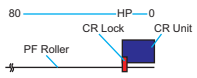
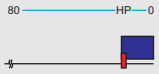
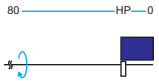
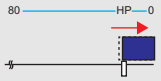
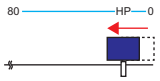
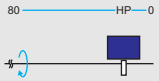
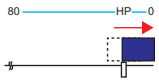
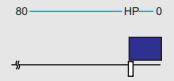
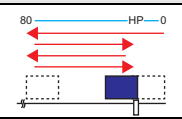
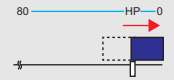
	■ Paper out in the Paper Cassette or the Rear Tray ■ The leading edge cannot be detected with the PE Sensor in the range of the standard movement.	■ Refill paper to the Paper Cassette and set the cassette back in place fully. ■ PE Sensor/PW Sensor FFC disconnected, breakage, slant connection, damaged contact (CN402/CN303). ■ Replace the PE Sensor/PW Sensor. ■ Replace the Main Board.
	■ Paper out in the Paper Cassette or the Rear Tray ■ The leading edge cannot be detected with the PE Sensor in the range of the standard movement.	■ Refill paper to the Rear Tray and set the Guide Paper back in place fully. ■ PE Sensor/PW Sensor FFC disconnected, breakage, slant connection, damaged contact (CN402/CN303). ■ Replace the PE Sensor/PW Sensor. ■ Replace the Main Board.
	■ Paper jam occurred in the path until the PE Sensor. ■ PE Sensor, PW Sensor error ■ CR system Fatal Error	■ Remove the foreign objects. ■ PE Sensor/PW Sensor FFC disconnection, breakage, slant connection, damaged contact (CN402/CN303). ■ Replace the PE Sensor/PW Sensor. ■ Troubleshoot and repair the CR system Fatal Error. ■ Replace the Main Board.
	Paper jam occurred while reversing paper or backside ejecting during paper feeding of duplex printing.	■ Remove the foreign objects. ■ Replace the Duplex Unit.
	■ Fatal Error: Head temperature error (031004) ■ Fatal Error: Head Hot error (before printing) (031001) ■ Fatal Error: Head Hot error (after flushing) (031002) Note Head Hot error does not occur when the signals do not flow fully because part or all of the contact of FFC is covered by foreign objects or the like.	1. Check the Head FFC state (CN301). 2. Replace the Head. 3. Replace the Main Board. Note Check the procedure in order.

2.2 Power-On Sequence

This section describes the power-on sequences as reference for troubleshooting. The preconditions are as follows.

- ☐ Condition: Power-on sequence (See Table2-1)
  - ■ No error occurred when you turned on the printer last time and it has been correctly turned off.
  - ■ Initial ink charge was done and every tank has sufficient ink.
  - ■ No paper on the paper path.
  - ■ The Print Head is capped.
  - ■ The Carriage is normally fixed by the CR Lock.
  - ■ Maintenance error recovery has never been performed.

Table 2-1. Normal Power-on Sequence

Operation*1	CR Unit/PF Roller movement and position*2
1. Checking fuse on the Print Head 1-1.Checks if the fuse on the Print Head circuit boards is blown.*3	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Releasing the CR Lock 3-1.The PF Motor rotates counterclockwise and releases the CR Lock.	
4. Seeking the home position 4-1.The CR Unit moves to the 0-digit side slowly and confirms it touches the Right Frame.	
4-2.The CR Unit moves to the 80-digit side slowly and confirms it does not touch the foreign material, such as remaining paper.	
4-3.The PF Motor rotates clockwise to completely release the CR Lock.	
4-4.The CR Unit moves to the 0-digit side slowly and checks it touches the Right Frame.	
4-5.The distance from the position where the CR Unit touched to the Left Frame is regarded as the standard distance from the origin position, and the home position is fixed. From then on, the CR Unit position is monitored according to the signals from the CR Encoder.	
5. Low temperature operation sequence *4 5-1.The CR Unit moves back and forth quickly to near the left frame two times.	
6. Ink system performance while power on 6-1.The CR Unit goes back to the home position.	

Note *1: The rotation directions of the PF Motor are as follows.
Clockwise: Paper is fed normally
Counterclockwise: Paper is fed backward

*2: The conditions of the CR Lock are as follows.
Red: CR Lock is set
White: CR Lock is released

*3: The fatal error occurs if there is a problem such as the fuse blew.

*4: Executed when the detected temperature is under 5 °C (41°F) by the thermistor on the Print Head.

2.3 Fatal Error Code List

This section describes how to check the fatal error code, description, and the possible causes.

2.3.1 Displaying the Fatal Error Code

The fatal error code is stored in the EEPROM on the Main Board and can be read out using the Adjustment Program. When a fatal error occurs, this product displays the fatal error code automatically on the panel LCD.

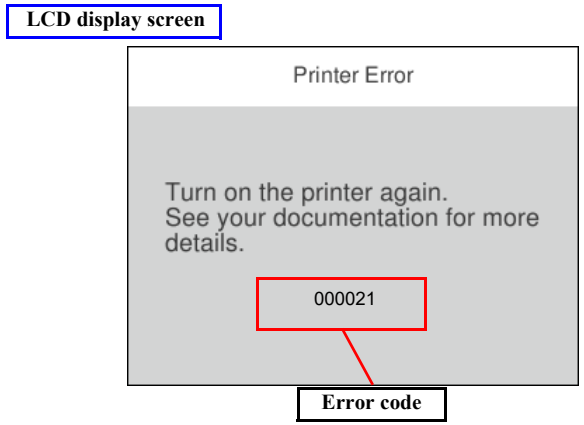


Figure 2-1. Indication of the fatal error code

2.3.2 Fatal Error Code

This section describes the fatal error code and the possible cause for this product.

- " Scanner (p49)"
- " Printer (CR) (p55)"
- " Printer (PF) (p58)"
- " Printer (PW/PE Sensor) (p60)"
- " Printer (Power Supply) (p60)"
- " Printer (Head/CSIC) (p61)"
- " Printer (Others) (p62)"
- " System Error (p62)"

CHECK

ADF related errors are included in the scanner fatal error list.

2.3.2.1 Scanner

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100001	ADF PID excess speed error	■ Failed to read the SCN motor encoder 1. Contamination of the SCN encoder scale 2. Damage or skew of the SCN encoder FFC 3. Failure of the SCN encoder sensor ■ Failure of the SCN motor driver 4. Failure of the Main Board	1. Clean the SCN encoder scale if it is contaminated. 2. Check the cable/FFC of the SCN motor/encoder. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.	Main Board CN410
100002	ADF PID reverse error	■ Paper feed fails, stopped by obstacles 1. Paper feed was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or tooth breakage of wheel train of the paper feed mechanism ■ Failed to read the SCN motor encoder 2. Jumping of the SCN drive gear wheel train 3. Contamination of the SCN encoder scale 4. Damage or skew of the SCN encoder FFC 5. Failure of the SCN encoder sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the ADF paper feed mechanism. 3. Check the ADF/SCN drive gear wheel train. 4. Clean the SCN encoder scale if it is contaminated. 5. Check the cable/FFC of the SCN motor/encoder. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410
100003	ADF PID lock error	■ The ADF paper feed did not run or obstacles exist in the paper path 1. Overload of the paper feed mechanism 2. The paper feed mechanism is disengaged or its tooth is broken ■ Failed to read the SCN motor encoder 3. Contamination of the SCN encoder scale 4. Disconnection, break, skew or damage of the SCN encoder FFC 5. Failure of the SCN encoder sensor 6. Failure of the SCN motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no jammed paper exist in the paper path. 2. Check the load of the ADF paper feed mechanism. 3. Check the ADF/SCN drive gear wheel train. 4. Clean the SCN encoder scale if it is contaminated. 5. Check the cable/FFC of the SCN motor/encoder. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100005	ADF PID excess load error	■ The SCN motor stopped running in the middle of the operation 1. The ADF was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or breakage of the gears ■ Failed to read the SCN motor encoder 2. Jumping of the SCN drive gear wheel train 3. Contamination of the SCN encoder scale 4. Disconnection, break, skew or damage of the SCN motor cable/ encoder FFC 5. Failure of the SCN motor (not completely broken) 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the ADF paper feed mechanism. 3. Check the ADF/SCN drive gear wheel train. 4. Check the SCN encoder scale for damage or contamination. 5. Check the cable/FFC of the SCN motor/encoder. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410
100006	ADF PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
100009	ADF BS+ excess speed error	■ Failed to read the SCN motor encoder 1. Contamination of the SCN encoder scale 2. Damage or skew of the SCN encoder FFC 3. Failure of the SCN encoder sensor ■ Failure of the SCN motor driver 4. Failure of the Main Board	1. Clean the SCN encoder scale if it is contaminated. 2. Check the cable/FFC of the SCN motor/encoder. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.	Main Board CN410
100010	ADF BS+ reverse error	■ Paper feed fails, stopped by obstacles 1. Paper feed was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or tooth breakage of wheel train of the paper feed mechanism ■ Failed to read the SCN motor encoder 2. Jumping of the SCN drive gear wheel train 3. Contamination of the SCN encoder scale 4. Damage or skew of the SCN encoder FFC 5. Failure of the SCN encoder sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the ADF paper feed mechanism. 3. Check the ADF/SCN drive gear wheel train. 4. Clean the SCN encoder scale if it is contaminated. 5. Check the cable/FFC of the SCN motor/encoder. 6. Replace the ADF Unit with a new one. 7. Replace the SCN Unit with a new one. 8. Replace the Main Board with a new one.	Main Board CN410

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100011	ADF BS+ lock error	■ The SCN motor did not run 1. The SCN was stopped by; • Obstacles such as jammed paper • Overload of the mechanism • Disengaging or breakage of the gears ■ Failed to read the SCN encoder 2. Contamination of the SCN encoder scale 3. Disconnection, break, skew or damage of the SCN motor cable/ encoder FFC 4. Failure of the SCN encoder sensor 5. Failure of the SCN motor (the lead wire is broken or the connector is disconnected) 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the ADF/SCN drive gear wheel train. 3. Clean the SCN encoder scale if it is contaminated. 4. Check the cable/FFC of the SCN motor/encoder. 5. Replace the ADF Unit with a new one. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410
100013	ADF BS+ excess load error	■ The SCN motor stopped running in the middle of the operation 1. The SCN was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or breakage of the gears ■ Failed to read the SCN motor encoder 2. Jumping of the SCN drive gear wheel train 3. Contamination of the SCN encoder scale 4. Failure of the SCN motor (not completely broken) 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the ADF paper feed mechanism. 3. Check the ADF/SCN drive gear wheel train. 4. Clean the SCN encoder scale if it is contaminated. 5. Replace the ADF Unit with a new one. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410
100014	ADF BS+ driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
100016	HP detection failure	■ The SCN CR could not return to its home. 1. Damage or disengaging of Wheel Train of the Drive Mechanism 2. Disengaging, fraying, jumping of the Timing Belt ■ Failed to read the white standard/home patterns. 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the CIS Unit 5. Failure of the SCN Housing 6. Failure of the Main Board	1. Turn the power on with the ADF Unit or the Document Cover opened. 2. Check if the CIS moves to the left to read the white standard/home patterns. 3. Check if the emission color of the CIS is white (not greenish, reddish, or bluish). If the light does not look like white, check the SCN FFC for damage, disconnection or skew. 4. Replace the SCN Unit with a new one. 5. Replace the Main Board with a new one.	Main Board CN409 CN410
100017	Contact detection distance exceeded	■ The SCN CR cannot completely reach the home (right side). 1. Damage or disengaging of Wheel Train of the Drive Mechanism ■ Failure of SCN Encoder reading 2. Damage or skew of the SCN FFC 3. Failure of the CIS Unit 4. Failure of the SCN Housing 5. Failure of the Main Board	1. Turn the power on with the ADF Unit or the Document Cover opened. 2. Check if the CIS (SCN CR) reaches (comes in contact with) the right side. 3. Check the Wheel Train of the Drive Mechanism for damage. 4. Check the SCN FFC for damage, disconnection or skew. 5. Replace the SCN Unit with a new one. 6. Replace the Main Board with a new one.	Main Board CN409 CN410

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100020	Measurement error	■ Overload of the SCN Drive Mechanism ■ Failure of the SCN Motor	1. Check if the CIS (SCN CR) moves or not. 1-1.Check the Wheel Train of the Drive Mechanism for damage. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	---
100032	LED light failure	■ Failure of the CIS LED light (RGB) 1. Disconnection, break, skew or damage of the scanner FFC 2. Failure of the CIS unit 3. Failure of the Main Board	1. Check the color of the LED at power-on. 2. Check the scanner FFC for damage, disconnection or skew. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.	Main Board CN409
100054	Paper jam error	■ No jammed paper is remaining but the sensor does not turn off 1. Failure of the ADF PE sensor 2. Failure of the cable ■ Jammed paper is remaining ■ The paper feed rollers and paper conveying rollers slip too much ☐ At power-on, during paper feed, during scanning	1. Open the PGU LD ADF Assy and check if paper exist or not. 2. Open the Document Support ADF and check if paper exist or not. 3. Open the ADF and check if paper exist or not. 4. Check if the paper sensor lever moves up and down. 5. Replace the ADF unit with a new one. 6. Replace the SCN Unit with a new one. 7. Replace the Main Board with a new one.	Main Board CN410
100065	FB PID excess speed error	■ Failed to read the scanner encoder 1. Contamination of the scanner encoder scale 2. Damage or skew of the scanner FFC 3. Failure of the scanner encoder sensor ■ Failure of the scanner motor driver 4. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100066	FB PID reverse error	■ Operation failure of the SCN Motor 1. Malfunction of the SCN ☐ Disengaging of the SCN CR ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100067	FB PID lock error	■ The scanner motor did not run 1. The scanning operation was stopped by; • Disengaging of the scanner CR • Disengaging of the scanner motor pulley or cracking of the scanner motor gears ■ Failed to read the CR motor encoder 2. Contamination of the scanner encoder 3. Damage or skew of the scanner FFC 4. Failure of the scanner encoder sensor 5. Failure of the scanner motor 6. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100069	FB PID excess load error	■ The scanner motor stopped running in the middle of the operation 1. The scanning operation was stopped by; • Disengaging of the scanner CR • Disengaging of the scanner motor pulley or cracking of the scanner motor gears ■ Failed to read the scanner motor encoder 2. Contamination of the scanner encoder 3. Disconnection, break, skew or damage of the scanner FFC 4. Failure of the scanner encoder sensor 5. Failure of the scanner motor (not completely broken). 6. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100070	FB PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
100073	FB BS+ excess speed error	■ Failed to read the scanner encoder 1. Contamination of the scanner encoder scale 2. Damage or skew of the scanner FFC 3. Failure of the scanner encoder sensor ■ Failure of the scanner motor driver 4. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100074	FB BS+ reverse error	■ Operation failure of the scanner motor 1. The scanning operation was stopped by; • Disengaging of the scanner CR • Disengaging of the scanner motor pulley or cracking of the scanner motor gears ■ Failed to read the scanner encoder 2. Contamination of the scanner encoder 3. Damage or skew of the scanner FFC 4. Failure of the scanner encoder sensor 5. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100075	FB BS+ lock error	■ The scanner motor did not run 1. The scanning operation was stopped by; • Disengaging of the scanner CR • Disengaging of the scanner motor pulley or cracking of the scanner motor gears ■ Failed to read the CR motor encoder 2. Contamination of the scanner encoder 3. Damage or skew of the scanner FFC 4. Failure of the scanner encoder sensor 5. Failure of the scanner motor 6. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100077	FB BS+ excess load error	■ The scanner motor stopped running in the middle of the operation 1. The scanning operation was stopped by; • Disengaging of the scanner CR • Disengaging of the scanner motor pulley or cracking of the scanner motor gears ■ Failed to read the scanner motor encoder 2. Contamination of the scanner encoder 3. Failure of the scanner motor (not completely broken). 4. Failure of the Main Board	1. Check the scanner FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN409 CN410
100078	FB BS+ driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

2.3.2.2 Printer (CR)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000020	CR PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000021	CR PID excess load error	■ The CR motor stopped running in the middle of the operation 1. The CR was stopped by; • Obstacles such as jammed paper • Overload of the mechanism • Interfere with the ink system • Disengaging, fraying, jumping of the timing belt • Crack or disengaging of the gear, or the APG lever interferes with the CR ■ Failed to read the CR encoder 2. Contamination of the CR encoder scale 3. Failure of the CR motor (not completely broken) 4. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR lock and ink system for any abnormality. 3. Check the timing belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR drive mechanism. 7. Clean the CR encoder scale if it is contaminated. 8. Replace the CR motor with a new one. 9. Replace the Main Board with a new one.	---
000022	CR PID excess speed error	■ Failed to read the CR encoder 1. Contamination of the CR encoder scale 2. Damage or skew of the CR encoder FFC 3. Failure of the CR encoder sensor ■ Failure of the CR motor driver 4. Failure of the Main Board	1. Clean the CR encoder scale if it is contaminated. 2. Check the FFC of the CR encoder. 3. Replace the CR encoder sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN305 CN303
000023	CR PID reverse error	■ Operation failure of the CR motor, stopped by obstacles 1. CR was stopped by; • Obstacles such as jammed paper • Interfere with the ink system • Disengaging or breakage of the gears ■ Failed to read the CR encoder 2. Jumping of the CR timing belt 3. Contamination of the CR encoder scale 4. Damage or skew of the CR encoder FFC 5. Failure of the CR encoder sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR lock and ink system for any abnormality. 3. Check the timing belt for fraying or looseness. 4. Clean the CR encoder scale if it is contaminated. 5. Check the CR encoder FFC or the connector. 6. Replace the CR encoder sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN305 CN303

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000024	CR PID lock error	■ The CR motor did not run, or the CR could not move smoothly 1. Overload of the CR ■ Failed to read the CR encoder 2. The timing belt become frayed or jumping 3. Contamination of the CR encoder scale 4. Disconnection, break, skew or damage of the CR encoder FFC 5. Failure of the CR encoder sensor 6. Failure of the CR motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Move the CR by hand to see if it moves smoothly without getting stuck. 3. Check the timing belt for fraying or looseness. 4. Clean the CR encoder scale if it is contaminated. 5. Check the connector and the CR encoder FFC for damage. 6. Replace the CR encoder FFC with a new one. 7. Check the connector of the CR motor. 8. Replace the CR motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN305 CN303
000025	CR PID speed fall error	■ Operation failure of the CR 1. The CR was stopped by; • Obstacles such as jammed paper • Overload of the mechanism • Interfere with the ink system ■ Failed to read the CR motor encoder 2. The timing belt become loosened or jumping 3. Contamination of the CR encoder scale 4. Damage or skew of the CR encoder FFC 5. Failure of the CR motor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR lock and ink system for any abnormality. 3. Check the timing belt for looseness. 4. Clean the CR encoder scale if it is contaminated. 5. Check the connector of the CR encoder FFC. 6. Replace the CR motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN305 CN303
000030	CR load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000031	CR load position excess load error	■ The CR motor stopped running in the middle of the operation 1. The CR was stopped by; • Obstacles such as jammed paper • Overload of the mechanism • Interfere with the ink system • Disengaging or breakage of the gears • Disengaging, fraying, jumping of the timing belt ■ Failed to read the CR encoder 2. Contamination of the CR encoder scale 3. Failure of the CR motor (not completely broken) 4. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR lock and ink system for any abnormality. 3. Check the timing belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR drive mechanism. 7. Clean the CR encoder scale if it is contaminated. 8. Replace the CR motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN305 CN303
000032	CR load position excess speed error	■ Failed to read the CR encoder 1. Contamination of the CR encoder scale 2. Damage or skew of the CR encoder FFC 3. Failure of the CR encoder sensor ■ Failure of the CR motor driver 4. Failure of the Main Board	1. Clean the CR encoder scale if it is contaminated. 2. Check the FFC of the CR encoder. 3. Replace the CR encoder sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN305 CN303
000033	CR load position reverse error	■ Operation failure of the CR motor, stopped by obstacles 1. CR was stopped by; • Obstacles such as jammed paper • Overload of the mechanism • Interfere with the ink system ■ Failed to read the CR encoder 2. Jumping of the CR timing belt 3. Contamination of the CR encoder scale 4. Damage or skew of the CR encoder FFC 5. Failure of the CR encoder sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR lock and ink system for any abnormality. 3. Check the timing belt for fraying or looseness. 4. Clean the CR encoder scale if it is contaminated. 5. Check the CR encoder FFC or the connector. 6. Replace the CR encoder sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN305 CN303

2.3.2.3 Printer (PF)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000040	PF PID driving time error	Malfunction or crash of the firmware ☐ The PE sensor remains in paper detection status and a paper jam error occurs instead of causing a fatal error.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000041	PF PID excess load error	■ The PF motor stopped running in the middle of the operation 1. The PF was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or breakage of the gears ■ Failed to read the PF motor encoder 2. Contamination of the PF encoder scale 3. Disconnection, break, skew or damage of the PF motor cable/ encoder FFC 4. Failure of the PF motor (not completely broken) 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the paper feed mechanism. 3. Check the wheel train of the PF drive and tooth breakage of the gears. 4. Check the PF encoder scale for damage or contamination. 5. Check the PF encoder FFC or the connector. 6. Replace the PF motor with a new one. 7. Replace the Main Board with a new one.	---
000042	PF PID excess speed error	■ Failed to read the PF motor encoder 1. Contamination of the PF encoder scale 2. Skew or damage of the PF encoder FFC 3. Failure of the PF encoder sensor ■ Failure of the PF motor driver 4. Failure of the Main Board	1. Clean the PF encoder scale if it is contaminated. 2. Check the PF encoder FFC or the connector. 3. Replace the PF encoder sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN304 CN401
000043	PF PID reverse error	■ Paper feed fails, stopped by obstacles 1. Paper feed was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or tooth breakage of wheel train of the paper feed mechanism ■ Failed to read the PF motor encoder 2. Contamination of the PF encoder scale 3. Skew or damage of the PF encoder FFC 4. Failure of the PF encoder sensor 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the paper feed mechanism. 3. Check the wheel train of the PF drive and tooth breakage of the gears. 4. Clean the PF encoder scale if it is contaminated. 5. Check the PF encoder FFC or the connector. 6. Replace the PF encoder sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN304 CN401

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000044	PF PID lock error	■ The PF motor did not run or obstacles exist in the paper path 1. Overload of the paper feed mechanism 2. The PF timing belt become frayed, jumping, or the wheel train of paper feed mechanism is disengaged or its tooth is broken ■ Failed to read the PF motor encoder 3. Contamination of the PF encoder scale 4. Disconnection, break, skew or damage of the PF encoder FFC 5. Failure of the PF encoder sensor 6. Failure of the PF motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no jammed paper exist in the paper path. 2. Check the load of the PF. 3. Check the wheel train of the PF drive and tooth breakage of the gears. 4. Clean the PF encoder scale if it is contaminated. 5. Check the PF encoder FFC or the connector. 6. Replace the PF encoder sensor with a new one. 7. Check the connector of the PF motor. 8. Replace the PF motor with a new one 9. Replace the Main Board with a new one.	Main Board CN304 CN401
000050	PF load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000051	PF load position excess load error	■ The PF motor stopped running in the middle of the operation 1. The PF was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or breakage of the gears ■ Failed to read the PF motor encoder 2. Contamination of the PF encoder scale 3. Failure of the PF motor (not completely broken) 4. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the paper feed mechanism. 3. Check the wheel train of the PF drive and tooth breakage of the gears. 4. Clean the PF encoder scale if it is contaminated. 5. Replace the PF motor with a new one 6. Replace the Main Board with a new one.	---
000052	PF load position excess speed error	■ Failed to read the PF motor encoder 1. Contamination of the PF encoder scale 2. Skew or damage of the PF encoder FFC 3. Failure of the PF encoder sensor ■ Failure of the PF motor driver 4. Failure of the Main Board	1. Clean the PF encoder scale if it is contaminated. 2. Check the PF encoder FFC or the connector. 3. Replace the PF encoder sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN304 CN401
000053	PF load position reverse error	■ Paper feed fails, stopped by obstacles 1. Paper feed was stopped by; • Obstacles such as jammed paper • Overload of the paper feed mechanism • Disengaging or tooth breakage of wheel train of the paper feed mechanism ■ Failed to read the PF motor encoder 2. Contamination of the PF encoder scale 3. Skew or damage of the PF encoder FFC 4. Failure of the PF encoder sensor 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the paper feed mechanism. 3. Check the wheel train of the PF drive and tooth breakage of the gears. 4. Clean the PF encoder scale if it is contaminated. 5. Check the PF encoder FFC or the connector. 6. Replace the PF encoder sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN304 CN401

2.3.2.4 Printer (PW/PE Sensor)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030001	PE detector error	■ PE Sensor damage ■ Failure of the Main Board ☐ Occurs when the light value became lower than the threshold value in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Main Board CN402
030002	PW sensor light value adjust error	■ PW Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PW Sensor for broken cable or unconnected connector. 2. Replace the PW Sensor with a new one. 3. Replace the Main Board with a new one.	Main Board CN303
030003	PE sensor light value adjust error	■ PE Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Main Board CN402

2.3.2.5 Printer (Power Supply)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030005	P/S internal temperature error (under the lower limit) *Occurs after paper feed, before start printing	■ P/S cable broken/caught. ■ Failure of a P/S circuit part (thermistor open) ■ Main Board circuit failure (Failure of the temperature detection circuit)	1. Replace the P/S cable with a new one. 2. Replace the P/S Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN604
030006	P/S internal temperature error (exceeded the upper limit) *Occurs after paper feed, before start printing	■ Failure of a P/S circuit part (excess heat) 1. Foreign obstacle entered inside the Power Supply (excess heat by thermistor short, leakage) ■ Main Board circuit failure 2. Foreign obstacle on the Main Board and/or connectors 3. Failure of the temperature detection circuit	1. Replace the P/S Unit with a new one. 2. Replace the Main Board with a new one.	---

2.3.2.6 Printer (Head/CSIC)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
031001	HeadHot detect error (pre printing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the Print Head 1. Failure of the Print Head 2. Failure of the Main Board ☐ Occurs in-between print passes (after printing one pass and before printing the next pass)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the Print Head with a new one. 3. Replace the Main Board with a new one.	Main Board CN301
031002	HeadHot detect error (after flushing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the Print Head 1. Failure of the Print Head 2. Failure of the Main Board ☐ Occurs every after ink flushing operation (Flushing before starting printing, flushing after manual cleaning and etc.)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the Print Head with a new one. 3. Replace the Main Board with a new one.	Main Board CN301
031003	Transistor temperature error	■ Since continued overload printing in high temperature, protective function of the head driven circuit worked. ■ Failure of the Main Board ☐ Occurs after receiving a print job and starting printing	Replace the Main Board with a new one.	---
031004	Head temperature error	■ Disconnection, break, skew or damage of the head FFC ☐ Occurs after receiving a print job and starting printing Failure of the thermistor inside the Print Head Temperature around the Print Head is out of the range from -20 to 80 degrees C.	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the Print Head with a new one. 3. Replace the Main Board with a new one.	Main Board CN301
031006	Blowout of a fuse error (Head)	■ Failure of the power source for the Print Head 1. Failure of the circuit Disconnection, break, skew, or damage of the head FFC 2. Blowout of fuse on the Main Board Failure of the Print Head ☐ Occurs at power-on, when replacing the ink cartridge, in-between print passes, and after flushing operation	1. If the fuse has not blown out 1) Check the head FFC for disconnection, break, skew or damage. 2. If the fuse has blown out 1) Replace the Main Board with a new one. 3. In the other cases 1) Replace the Print Head with a new one.	Main Board CN301
031008	VBS overvoltage error	1. Head FFC failure (skew, foreign object attached) 2. Failure of the head 3. Failure of the Main Board (Occurrence frequency based on past record is 1. > 2. > 3.)	1. Check the head FFC. 2. Replace the Print Head with a new one. 3. Replace the Main Board with a new one.	Main Board CN301
033003	Other Ink device error	■ Error in the printer settings ■ Failure of the Main Board ☐ Occurs at power-on	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
033004	Other Ink device error			
033005	Other Ink device error			

2.3.2.7 Printer (Others)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
034001	Home position seek error *Since the panel displays “paper jam error”, user do not notice but the error log remains	The carriage does not move 1. Overload of the Carriage Drive Mechanism (paper jam, foreign object) 2. Failure of the Ink system 3. Failure of the CR Motor 4. Failure of the Main Board	1. Check that no obstacles or paper exist in the carriage motion range. 2. Manually unlock the carriage. (If unlocking is impossible, the problem caused by failure of the Ink system.) 3. Check the load applied to the CR by moving it by hand. 4. Turn the printer on and check if the carriage moves. If it still does not move, the motor is broken or failure of the Main Board.	---
034004	Paper jam release impossible error	■ Main Board failure ■ Something mechanical failure with PF motor.	1. Check the mechanism around PF motor and whether PF motor works normally or not. 2. Replace the PF motor with a new one. 3. Replace the Main Board with a new one.	Main Board CN304
060001	Factor error other than printer device	Depend on user environment	Customized support	---
060002	Driver mismatch error	■ Non-supported printer driver ■ Mismatch between custom printer driver and custom printer	Check the OS and the version of the printer driver.	---

2.3.2.8 System Error

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
202620	Wi-Fi Board failure	Failure or disconnection of the wireless network board	1. Check the wireless network board. 2. Check the FFC.	Main Board CN202
203004	Panel unit failure	Failure of the panel unit	1. Check the panel unit. 2. Check the FFC.	Main Board CN207 CN209

2.4 Service Support Mode

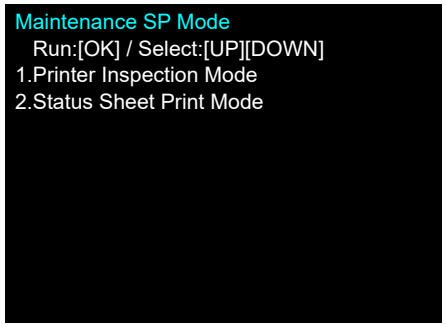
☐ Overview

Service support mode is a service dedicated special mode that can be started by a special operation from LCD panel or adjustment program, and allows you to execute functions including printer mode, service status sheet, and touch panel adjustment.

The way to put the printer into service support mode differs between ET-3800/ ET-3830/L6260 series and ET-4850/L6290/ST-C4100 series, ET-3850/ ET-3840/L6270 series, ET-2850/L4260/ST-C2100 series.

- ET-3800/ET-3830/L6260 series: Special operation from LCD panel
- ET-4850/L6290/ST-C4100 series, ET-3850/ET-3840/L6270 series, ET-2850/L4260/ST-C2100 series: Adjustment Program
  The following section describes the special operation using the LCD panel.

☐ Structure of service support mode menu



LCD Model

Figure 2-2. Service support mode: top menu

Item	Display	Explanation	When to use
Printer mode	Printer Inspection Mode	Allows you to perform adjustment with the ADF/SCN Unit removed.	When repairing
Service status sheet print (p.66)	Status Sheet Print Mode	In addition to the normal status sheet information, you can check information needed for servicing.	Troubleshooting
Touch panel adjustment (p.161)	Touch Screen Calibration	Perform the home position adjustment of the touch panel.	When repairing

2.4.1 LCD Model

☐ Service Support Mode startup and operating procedures

1. Press the [SW1] and [Power SW] button until the screen switches, starting the printer.

Figure 2-3. Service Support Mode startup and operating procedures

2. Operate the Touch Panel, and enter the ID.
   ID to enter: 83331

■ Operating procedure

1. Press [Up] or [Down] until the value necessary for this digit is displayed.
2. Press [Right] to enter the value. The value will change to "*", and the cursor goes to the next digit.
3. Repeat steps 1 and 2 to enter the 5 digit ID.

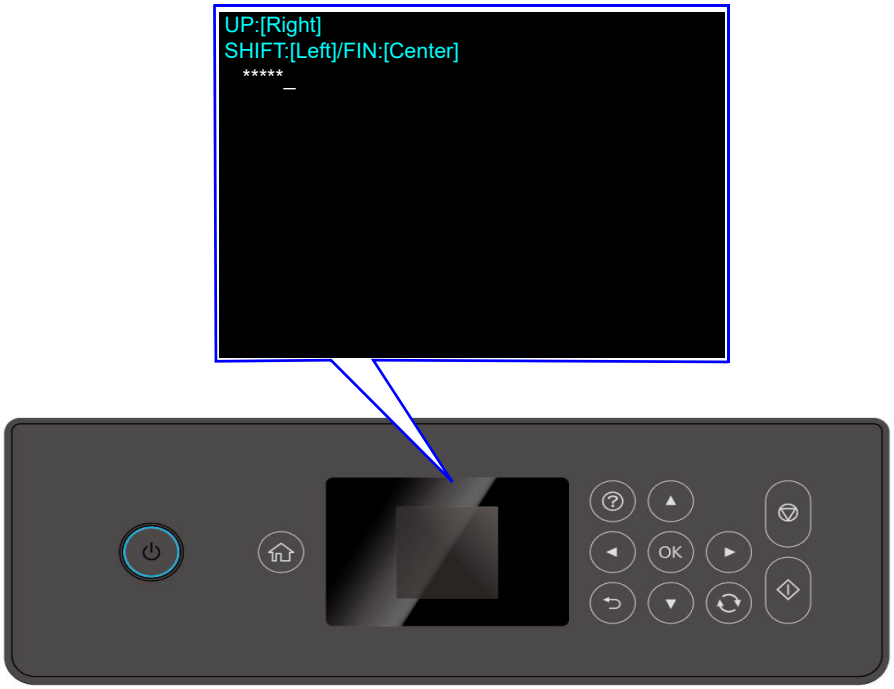


Figure 2-4. Service support mode operation method

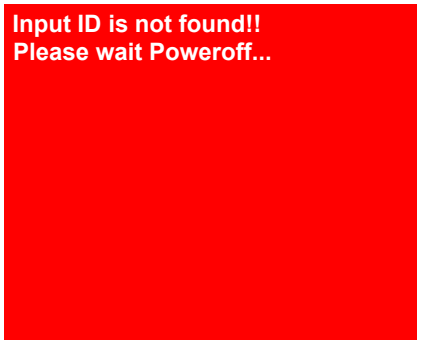
CHECK

- **It is not possible to return to the previous digit after shifting digits. If you wish to correct the number of the previous digit, proceed with the steps until after step 5 and then perform input again.**
- **Please note that the execute button is not enabled until at least two digits have been entered.**

CAUTION

Solution if enter and execute the wrong ID

- **When a different mode starts:**
  If you enter the wrong ID and a different mode starts, there is the possibility of changing important settings of the unit, so press the power button to turn off the power immediately and then perform the process again to enter the correct ID number.
- **When non-existent ID number:**
  The following panel LCD display appears and the power is turned off automatically.



2.4.2 Status Sheet Information

This section explains about each item printed on the status sheets.
The following status sheets can be printed from the printer.

☐ Overview of Status Sheets

- ■ Printer Information Sheet : printer settings information
- ■ Supply Status Sheet : supported model numbers of consumables or periodic replacement parts, and the total number of sheets fed into the printer.
- ■ Usage History Sheet : usage history such as the total number of printed pages per function.
- ■ Service Status Sheet : in addition to the information included in the above three sheets, information required for servicing is also provided. However, the status sheet can be printed only in service support mode. (p.63)

☐ Status Sheet Items

- ■ Printer information sheet (total pages: 2 sheets)

Item			Explanation
Hardware Configuration	Device ID		Device ID (product name) is displayed.
	Serial Number		The serial number of the product is displayed.
	MAC Address		MAC address of the product is displayed.
	<Hardware>	Memory Capacity	Capacity of the memory inside the product is displayed.
	Firmware		Version of the firmware is displayed.
	<Version>	Main Firmware	Version of the main firmware is displayed.
		Network Firmware	Version of the NW firmware is displayed.
		QPIT	Version of the QPIT is displayed.

Item				Explanation
Basic settings		Language		The current language setting is displayed.
	<Sound settings>	Mute		The setting of mute (on/off) is displayed.
		Normal	Button Press	Sound level setting (0 to 10) is displayed.
			Error Notice	
			Receive Completion Notice	
			Send Completion Notice	
			Print Completion Notice	
			Ring Tone	
			Receiver	
		Sleep timer setting		Whether the sleep timer is enabled or not is displayed. When enabled, the time period before the product enters sleep mode is also displayed.
		Power Off Settings		Whether the auto power off setting is enabled or not is displayed. When enabled, the time period before the printer automatically turns off is also displayed.
		Auto Error Solver		Whether the auto error resolver options are enabled or not is displayed.
		Ink Drying Time		The Ink Drying Time when duplex printing is displayed.
		PC connection via USB		Whether the setting is enabled or not is displayed.
Paper source settings	Paper cassette	Paper cassette 1	Paper Size	Paper size settings for each of the paper sources.
			Paper Type	Paper type settings for each of the paper sources.
		MP tray	Paper Size	Paper size settings of the rear tray is displayed.
			Paper Type	Paper type settings of the rear tray is displayed.
		A4/Letter Auto Switching		Whether the auto switching function is enabled or not is displayed.
		Paper Size Notice		Whether the setting is enabled or not is displayed.
		Paper Type Notice		Whether the setting is enabled or not is displayed.
Print settings		Universal Print Settings	Top Offset	The offset setting (-30 to 30) is displayed.
			Left Offset	
			Top Offset in Back	
			Left Offset in Back	
			Check Paper Width	Whether the setting is enabled or not is displayed.
			Skip Blank Page	Whether the setting is enabled or not is displayed.

Item				Explanation
Scan settings	Scan to Cloud	Color		The color setting (Color or Mono) is displayed.
		File Format		File format setting is displayed.
		Scan area		Original document size setting is displayed.
		Remove shadow		Whether the setting is enabled or not is displayed.
			Surround	The frame width setting (0 to 40 mm/---(in case of the shadow remove setting is disabled)) is displayed.
			Center	The center width setting (0 to 40 mm/---(in case of the shadow remove setting is disabled)) is displayed.
		Remove Punch Holes		Whether the setting is enabled or not is displayed.
			Erasing Position	The erasing setting (left edge/right edge/top edge/bottom edge/--- (in case of the remove punch holes setting is disabled)) is displayed.
			Erase Amount	The erasing amount (0 to 20 mm/--- (in case of the remove punch holes setting is disabled)) is displayed.
		Orientation		The document orientation setting (portrait or landscape) is displayed.
		Document Type		The quality setting (Text/Text & Image/Photo) is displayed.
		Density		The density setting (-4 to 4) is displayed.

■ Supply Status Sheet (total pages: 1 sheet)

Item				Explanation
Hardware Configuration		Device ID		Device ID (product name) is displayed.
		Serial Number		The serial number of the product is displayed.
		MAC Address		MAC address of the product is displayed.
		<Hardware>	Memory Capacity	Capacity of the memory inside the product is displayed.
		Firmware		Version of the firmware is displayed.
		<Version>	Main Firmware	Version of the main firmware is displayed.
			Network Firmware	Version of the NW firmware is displayed.
			QPIT	Version of the QPIT is displayed.
Supply Status	Ink Bottle	Black	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Cyan	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Magenta	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Yellow	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
	Maintenance Box		Serial Number	Manufacturer's serial number of the Maintenance Box is displayed.

■ Usage History Sheet (total pages: 2 sheets)

Item			Explanation
Hardware Configuration	Device ID		Device ID (product name) is displayed.
	Serial Number		The serial number of the product is displayed.
	MAC Address		MAC address of the product is displayed.
	<Hardware>	Memory Capacity	Capacity of the memory inside the product is displayed.
	Firmware		Version of the firmware is displayed.
	<Version>	Main Firmware	Version of the main firmware is displayed.
		Network Firmware	Version of the NW firmware is displayed.
		QPIT	Version of the QPIT is displayed.
Usage History	First Time Printing		The date and time when the printer printed for the first time is displayed.
Number of Pages	<Sorted by Function>	Total Number of Pages	The total number of printed pages is displayed.
		Total Number of B&W Pages	The total number of pages printed in monochrome is displayed.
		Total Number of Color Pages	The total number of pages printed in color is displayed.
		Total Number of 2-Sided Printing Pages	The total number of printed 2-sided pages is displayed.
		Total Number of 1-Sided Printing Pages	The total number of printed one-sided pages is displayed.
	<Sorted by Paper Size> (1-sided/2-sided, B&W/Color)	A3/Ledger	The total number of printed pages per paper size is displayed. Detailed count per function (one-sided/2-sided, monochrome/color) is also displayed for each paper size.
		A4/Letter	
		A5	
		A6	
		B4/Legal	
		B5	
		Envelope	
		Others	

Confidential

Item			Explanation
Number of prints	<Sorted by Usage>	B&W Copy	The total number of printed pages for each of the purposes is displayed.
		Color Copy	
		B&W Fax	
		Color Fax	
		B&W Scan	
		Color Scan	
		B&W Print from Computer or Mobile Device	
		Color Print from Computer or Mobile Device	
		B&W Print from Memory Device or Other Functions	
		Color Print from Memory Device or Other Functions	
	<Sorted by Printer Language>	ESC/P-R	The version of each of the printer language is displayed.
		Others	
Usage History	Scanned page number	B&W Scan	Number of sheets scanned in monochrome.
		Color Scan	Number of sheets scanned in color.

■ Service Status Sheet (total pages: 6 sheets)

Item			Explanation
Hardware Configuration	Device ID		Device ID (product name) is displayed.
	Serial Number		The serial number of the product is displayed.
	MAC Address		MAC address of the product is displayed.
	<Hardware>	Memory Capacity	Capacity of the memory inside the product is displayed.
	Firmware		Version of the firmware is displayed.
	<Version>	Main Firmware	Version of the main firmware is displayed.
		Network Firmware	Version of the NW firmware is displayed.
		QPIT	Version of the QPIT is displayed.
Basic Settings	Sleep Timer		Whether the sleep timer is enabled or not is displayed. When enabled, the time period before the product enters sleep mode is also displayed.
	Power Off Settings		Whether the auto power off setting is enabled or not is displayed. When enabled, the time period before the printer automatically turns off is also displayed.
	Ink Drying Time		The Ink Drying Time when duplex printing is displayed.
Paper Source Settings / Paper Cassette	Cassette 1/ Rear MP Tray	Paper Size	Paper size settings for each of the paper sources.
		Paper Type	Paper type settings for each of the paper sources.
Print Settings	Universal Print Settings	Top Offset	The offset setting (-30 to 30) is displayed.
		Left Offset	
		Top Offset in Back	
		Left Offset in Back	
		Check Paper Width	Whether the setting is enabled or not is displayed.
		Skip Blank Page	Whether the setting is enabled or not is displayed.
Network Settings	IP Address		The network settings are displayed.
	Subnet Mask		
	Default Gateway		
	Primary DNS Server		
	Secondary DNS Server		
	DNS Domain Name		
	Proxy Server Settings		
	Proxy Server		
	Proxy Server Port Number		

Item				Explanation
Scan settings	Scan to Cloud	Color Mode		The color setting (Color or Mono) is displayed.
		File Format		File format setting is displayed.
		Scan Area		Original document size setting is displayed.
		Remove Shadow (not provided for “Scan to Cloud”)		Whether the setting is enabled or not is displayed.
			Surround	The frame width setting (0 to 40 mm/---(in case of the shadow remove setting is disabled)) is displayed.
			Center	The center width setting (0 to 40 mm/---(in case of the shadow remove setting is disabled)) is displayed.
		Remove Punch Holes		Whether the setting is enabled or not is displayed.
			Erasing Setting	The erasing setting (left edge/right edge/top edge/bottom edge/--- (in case of the remove punch holes setting is disabled)) is displayed.
			Erase Amount	The erasing amount (0 to 20 mm/--- (in case of the remove punch holes setting is disabled)) is displayed.
		Orientation (original)		The document orientation setting (portrait or landscape) is displayed.
		Document Type		The quality setting (Text/Text & Image/Photo) is displayed.
		Density		The density setting (-4 to 4) is displayed.
Option Settings		Fax Function		Whether the fax feature is enabled or not is displayed.
Supply Status	Ink Bottle	Black	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Cyan	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Magenta	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
		Yellow	Serial Number	Manufacturer's serial number of each of the ink bottle is displayed.
	Maintenance Box		Serial Number	Manufacturer's serial number of the Maintenance Box is displayed.
Usage History		First Time Printing		The data and time the printer printed for the first time are displayed.
		<Sorted by Function>	Total Number of Pages	The total number of pages printed by the printer is displayed.
			Total Number of B&W Pages	The total number of pages printed in monochrome is displayed.
			Total Number of Color Pages	The total number of pages printed in color is displayed.

Item			Explanation
Usage History	<Sorted by Paper Size> (1-sided/2-sided, B&W/Color)	A3/Ledger	The total number of printed pages per paper size is displayed. Detailed count per function (one-sided/2-sided, monochrome/color) is also displayed for each paper size.
		A4/Letter	
		A5	
		A6	
		B4/Legal	
		B5	
		Envelope	
		Others	
	<Sorted by Usage>	B&W Print from Computer or Mobile Device	The total number of printed pages for each of the purposes is displayed.
		Color Print from Computer or Mobile Device	
		B&W Copy	
		Color Copy	
		B&W Fax	
		Color Fax	
		B&W Print from Memory Device or Other Functions	
		Color Print from Memory Device or Other Functions	
	Other	The Cumulative number of paper jam	The total number of times a paper jam error occurs is displayed.
	Number of Sheets Scanned	Document Table (Number of pages)	The total number of pages scanned on the scanner glass or in the ADF is displayed.
		ADF (Number of pages)	
		ADF (Number of Fed Sheets)	The total number of document sheets fed by the ADF is displayed.
	Number of Sheets Loaded	Cassette 1/Rear MP Tray	The total number of printed pages per paper source is displayed.
Status	Printer Error		Status of the product (error occurring state) is displayed.
	Scanner Error		
	Fax Error		
	Network Error		
	Other Error		

CHAPTER

3

DISASSEMBLY/ASSEMBLY

3.1 Overview

This chapter describes procedures for disassembling the main parts/units of ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series/ET-2850/L4260/ST-C2100 series. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. Disassembly/reassembly precautions and tips are give in "3.3.4 Repairing Major Components Disassembly/Assembly Procedure" (p106) and "3.4 Detailed Disassembly/Reassembly Procedure for each Part/Unit" (p132). See the sections as necessary.

Make sure to read " Safety Precautions" (p3) before starting work.

When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

3.1.1 Tools

Use only specified tools to avoid damaging the printer.

Table 3-1. Tools

Name	Availability	EPSON Part Code
(+) Phillips screwdriver #1	✓	1080530
(+) Phillips screwdriver #2	✓	---
Flathead screwdriver	✓	---
Flathead Precision screwdriver #1	✓	---
Tweezers	✓	---
Longnose pliers	✓	---
Acetate tape	---	1003963

Note 1: "Availability" means that use of a commercially available one is permitted.
2: EPSON provides the tools listed with EPSON part code.

3.1.2 Jigs

Table 3-2. Jigs

Name	Quantity	EPSON Part Code
Teflon tape (t = 0.08 mm)	1	1706715
Thickness gauge (1.37 mm) (for µTFP1S head)	1	Commercially available
Thickness gauge (1.87 mm) (for µTFP1S head)	1	
Tube clip	4	
Syringe	4	
Case for extruding ink	4	

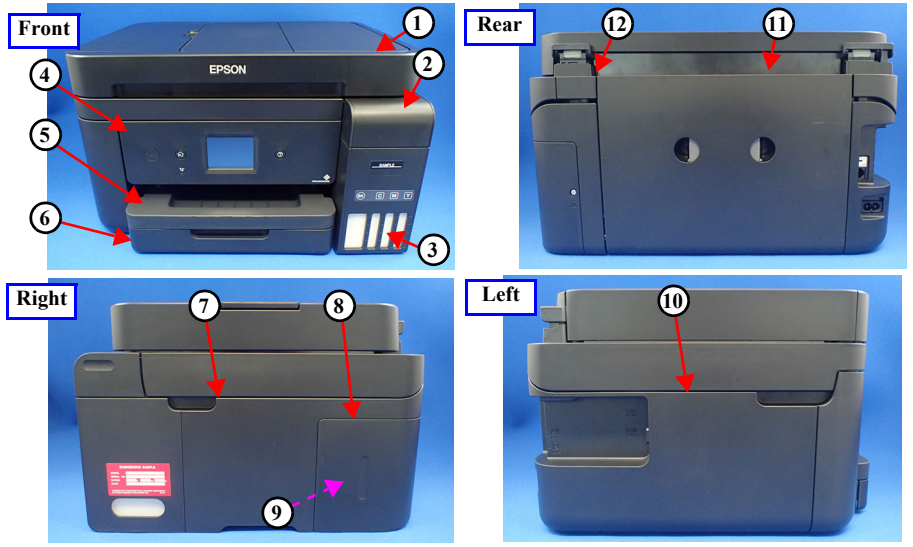
3.1.3 Locations of the Parts/Units

This section shows the locations of the main parts/units.

CHECK

The parts/units which can not be seen in the following pictures are indicated in dotted lines (- - →).

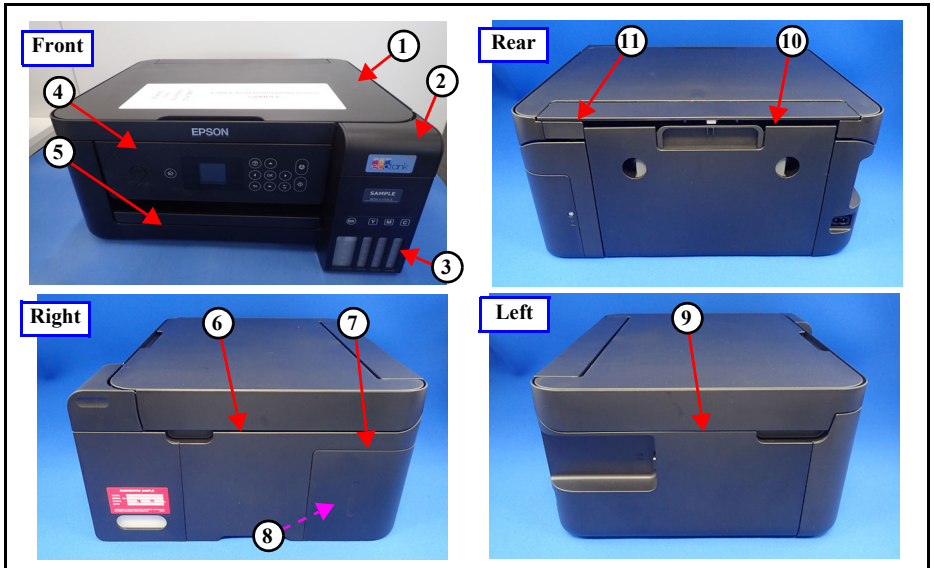
☐ Exterior parts (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series)



No.	Name	No.	Name
1	ADF/SCN Unit (p97)	7	Housing Right (p95)
2	Cover Tank (p95)	8	Cover Ink Eject (p95)
3	Ink Tank BK (p97)/ Ink Tank CL (x3) (p97)	9	Maintenance Box (p95)
4	Panel Unit (p95)	10	Housing Left (p95)
5	Stacker (p95)	11	Duplex Unit (p96)
6	Paper Cassette (p96)	12	Cover Hinge SCN (p95)

Figure 3-1. Exterior Parts (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series)

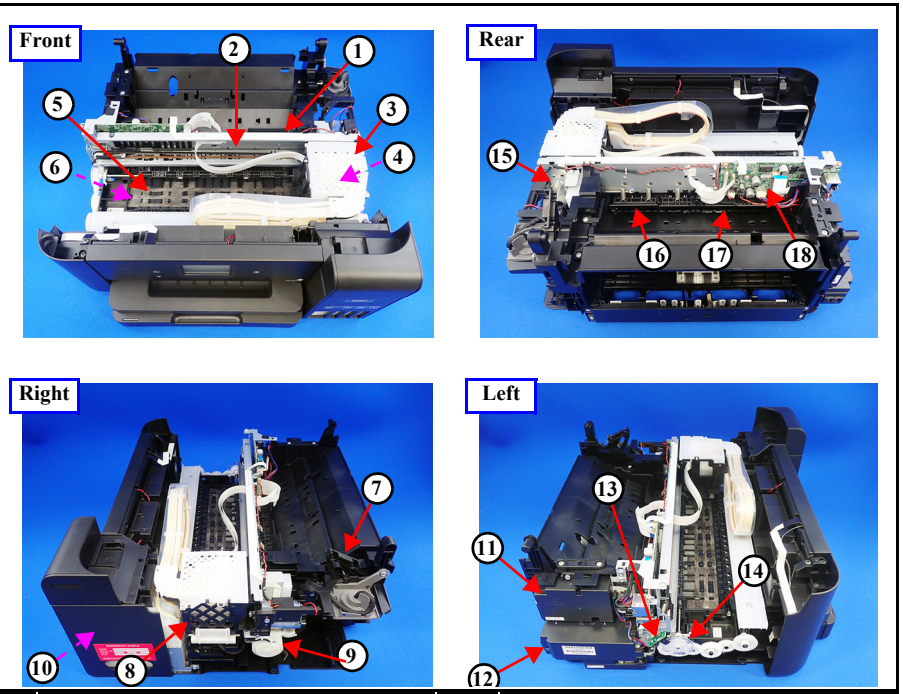
☐ Exterior parts (ET-3800/ET-3830/L6260 series/ET-2850/L4260/ST-C2100 series)



No.	Name	No.	Name
1	SCN Unit (p102)	6	Housing Right (p100)
2	Cover Tank (p100)	7	Cover Ink Eject (p100)
3	Ink Tank BK (p101)/ Ink Tank CL (x3) (p101)	8	Maintenance Box (p95)
4	Panel Unit (p100)	9	Housing Left (p100)
5	Stacker (p100)	10	Duplex Unit (p96)
		11	Cover Hinge SCN (p100)

Figure 3-2. Exterior Parts (ET-2850/L4260/ST-C2100 series)

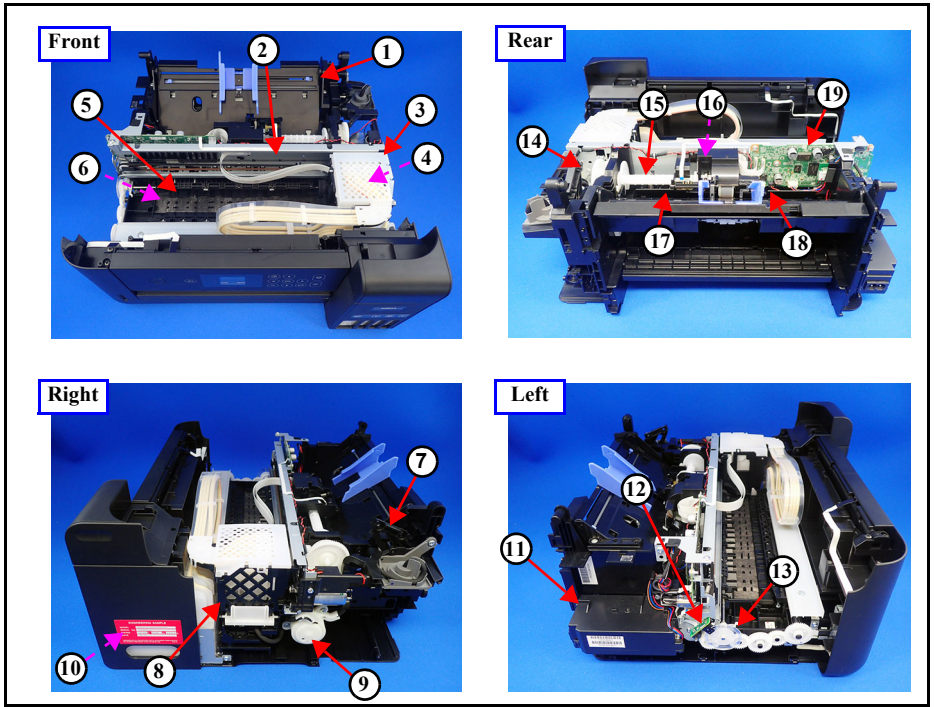
☐ Printer mechanism(ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/ L6270 series/ET-3800/ET-3830/L6260 series)



No.	Name	No.	Name
1	Main Frame Assy (p98)	10	Ink Tank BK (p97)/ Ink Tank CL (x3) (p97)
2	CR Scale & Spring (p97)	11	Fax Box (p95)
3	Cover CR (p96)	12	P/S Unit (p95)
4	Print Head (p96)	13	PF Encoder (p95)
5	Paper Guide Front Assy (p95)	14	PF Scale (p95)
6	Paper Guide Lower Porous Pad (p95)	15	CR Motor (p98)
7	SCN Hinge (p97)	16	Paper Guide Upper Right (p98)
8	CR Unit (p98)	17	Paper Guide Upper Left (p98)
9	Ink System (p97)	18	Main Board (p98)

Figure 3-3. Printer Mechanism (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

☐ Printer mechanism (ET-2850/L4260/ST-C2100 series)



No.	Name	No.	Name
1	Frame ASF Rear Assy (p104)	11	P/S Unit (p100)
2	CR Scale & Spring (p101)	12	PF Encoder (p100)
3	Cover CR (p101)	13	PF Scale (p100)
4	Print Head (p101)	14	CR Motor (p103)
5	Paper Guide Front Assy (p100)	15	Shaft LD Rear Assy (p102)
6	Paper Guide Lower Porous Pad (p100)	16	Paper Set Detection Sensor Assy (p102)
7	SCN Hinge (p102)	17	Paper Guide Upper Right (p104)
8	CR Unit (p103)	18	Paper Guide Upper Left (p104)
9	Ink System (p102)	19	Main Board (p103)
10	Ink Tank BK (p101)/ Ink Tank CL (x3) (p101)		

Figure 3-4. Printer Mechanism

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3.1.4 Standard Operation Time for Servicing the Product

The following are the standard operation time for servicing the product. This standard operation time was determined based on the MTTR result measured using the prototype of ET-4850/L6290/ST-C4100 series/ET-2850/L4260/ST-C2100 series/ET-2850/L4260/ST-C2100 series.

The underlined parts/units are supplied as After Service Parts.

- ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
Duplex unit	0:04	3:54	3:58
Housing Upper Front	1:05		1:05
Cover Ink Eject	0:27		0:27
Maintenance Box	0:33		0:33
Pick up Roller Assy.	0:21		0:21
Stacker	0:12		0:12
Lever Paper Return	0:57		0:57
Lever Paper Return Spring	1:00		1:00
Cover Cable Head	0:16		0:16
Cap Hinge Tank	0:04		0:04
Cap Tank	0:08		0:08
Cover Hinge SCN	0:14		0:14
Paper Guide Front Assy	0:49	1:40	2:29
Paper Guide Lower Porous Pad	0:58	0:02	1:00
PG Spacer	0:53	1:40	2:33
Cover Document Assy	0:06		0:06

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
Cover Base ADF	1:14		1:14
Sheet ADF Paper Guide	1:41		1:41
ADF Document Support Cover	0:14		0:14
ADF Stacker Assy	0:27		0:27
PGU LD ADF Assy	0:28		0:28
Frame Upper ADF Assy	1:20		1:20
ADF PAD Assy	1:55		1:55
ADF PAD Spring	1:55		1:55
ADF Document Support	0:10		0:10
Document Mat	0:16		0:16
Cover CR	0:33		0:33
Adapter (CL) (x3)	1:37		1:37
Adapter (BK)	0:56		0:56
Sheet Guide Tube	1:26		1:26
Sheet Guide Tube Support	2:00		2:00
Adapter Tube	3:12		3:12
Holder Board	2:15		2:15
Paper Cassette	0:11	2:14	2:25
Print Head	3:23	17:04	20:27
Cover Tank	1:11		1:11
Pressing Plate Tube	1:15		1:15
Guide Tube Supply Ink 2nd	3:08		3:08
Star Wheel Holder Assy	3:34	1:40	5:14
Housing Left	1:33		1:33
PF Scale	1:48		1:48

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
PF Encoder	2:19		2:19
Frame Main Support	2:30		2:30
Holder Core Fax	7:45		7:45
Fax Box	3:41		3:41
Porous Pad Fax Unit	3:53		3:53
P/S Unit	3:04	1:18	4:22
Porous Pad P/S Unit	3:16		3:16
ASF Bank Assy	5:07	2:14	7:21
Slider Rlease Pick up	5:38	2:14	7:52
Panel Unit	6:32	0:12	6:44
Panel Shaft	9:15	0:12	9:27
Housing Right	2:04		2:04
Housing Upper Rear	2:34		2:34
Ink System	3:04		3:04
Holder Housing Ink Eject	4:09		4:09
Holder Connector CSIC IS	4:08		4:08
Connector CSIC	4:08		4;08
Holder Cable CSIC Ink Eject	3:51		3:51
I/S transmission Gear	3:08		3:08
Ink Eject CSIC FFC	4:32		4:32
Spur Gear13.6	3:18		3:18
Spur Gear16	3:18		3:18
CR Scale & Spring	2:56		2:56
Holder Scale CR	3:16		3:16
Housing Front	3:38		3:38

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
Key Slot Assy	4:30		4:30
Tank Cover Sensor	5:02		5:02
Base Right Support	5:05		5:05
Tank Upper Porous Pad	5:09		5:09
Ink Tank BK	6:09		6:09
Ink Tank CL (x3)	7:49		7:49
SCN Hinge	3:55		3:55
Holder Damper SC	4:01		4:01
Rack Damper SC	4:01		4:01
SCN Lock Boss	4:02		4:02
Nut for Cover Ink Eject	3:59		3:59
ADF/SCN Unit	4:07		4:07
ADF Unit	4:52		4:52
Scanner Unit	4:52	0:49	5:41
Main Board	7:36	11:11	18:47
Cover Transistor	7:54		7:54
Heat Conduction Sheet	7:40		7:40
Wi-Fi Board	4:19		4:19
Paper Guide Dup Front	5:00		5:00
Roller Upper ASF	5.17		5.17
Holder Roller Upper ASF	5:19		5:19
Compression Spring 1.50	5:22		5:22
Paper Guide Upper Left Spring	6:23		6:23
Paper Guide Upper Left	8:30	1:40	10:10
Paper Guide Upper Right Spring	5:36		5:36

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
Paper Guide Upper Right	9:30	1:40	11:10
PE Sensor Assy	10:19	3:04	13:23
PE Sensor	10:45	3:04	13:49
PE Sensor Holder	10:45		10:45
PF Roller Grounding Spring	10:56		10:56
PF Roller	11:25	2:01	13:26
Spur Gear 18.6(1)	11:30	1:40	13:10
Combination Gear 22.2	11:32	1:40	13:12
Ink Eject FFC Plate	5:25		5:25
Front One Way Clutch Assy	5:39		5:39
CR Driven Pulley Assy	15:11		15:11
Main Frame Assy	16:14	8:56	25:10
CR Motor	17:01	3:25	20:26
Holder Cam Assy	16:47		16:47
Slider Trans & Spring	16:26		16:26
Spur Gear 17.6	16:18		16:18
Compression Spring Transmission	16:18		16:18
CR Unit	17:31	6:28	23:59
PW Sensor	17:59	2:34	20:33
CR Encoder	18:10		18:10
CR Timing Belt	17:44		17:44
Head FFC	18:01		18:01
Head Grounding Plate	18:03	2:14	20:17
Main Frame	18:03		18:03

Table 3-3. Standard Operation Time (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Parts/Unit	Time (in units of seconds)		
	Replacement	Adjustment/ inspection	Total
Frame Base Assy	16:14		16:14
Cover Porous Pad Rear	16:20		16:20
Paper Guide Lower Porous Pad D	16:24	0:02	16:26
Porous Pad Frame Cover	17:02		17:02
Paper Guide Lower Porous Pad B & C	17:06	0:02	17:08
EJ Roller Assy	17:12	1:40	18:52
Spur Gear 23.4	17:37	1:40	19:17
Spur Gear 18.6(2)	24:50	3:20	28:10
EJ Roller	17:12	1:40	19:17
PF Motor Assy	18:49	0:13	19:02
Frame Center Support	18:13		18:13
Paper Guide Lower Porous Pad Bend	18:21		18:21
Center Support	18:13		18:13
Square Nut	16:21		16:21
Frame Holder ASF	19:58		19:58
Spur Gear 21.6	20:04		20:04
Dual One Way Clutch Assy	20:07		20:07
Shaft Lever Release Pick up	20:52		20:52

☐ ET-2850/L4260/ST-C2100 series

Table 3-4. Standard Operation Time (ET-2850/L4260/ST-C2100 series)

Parts/Unit	Time		
	Replacement	Adjustment/ inspection	Total
Duplex unit	0:04	3:47	3:51
Housing Upper Front	1:05		1:05
Cover Ink Eject	0:26		0:26
Stacker	0:12		0:12
Cover Hinge SCN	0:14		0:14
Cover Cable Head	0:16		0:16
Cap Hinge Tank	0:04		0:04
Cap Tank	0:08		0:08
Paper Guide Front Assy	0:49	1:51	2:40
Paper Guide Lower Porous Pad	0:58	0:02	1:00
PG Spacer	0:53	1:51	2:44
Cover Document Assy	0:06		0:06
Document Mat	0:16		0:16
Cover Rear ASF Assy	0:04		0:04
Cover CR	0:33		0:33
Adapter (CL) (x3)	1:37		1:37
Adapter (BK)	0:56		0:56
Holder Board	2:15		2:15
Print Head	3:23	16:49	20:12
Sheet Guide Tube	1:26		1:26
Sheet Guide Tube Guide	2:00		2:00
Adapter Tube	3:12		3:12
Housing Right	2:19		2:19
Cover Tank	1:11		1:11

Table 3-4. Standard Operation Time (ET-2850/L4260/ST-C2100 series)

Parts/Unit	Time		
	Replacement	Adjustment/ inspection	Total
Pressing Plate Tube	1:15		1:15
Guide Tube Supply Ink 2nd	3:08		3:08
Star Wheel Holder Assy	3:34	1:51	5:25
Housing Left	1:33		1:33
PF Scale	1:48		1:48
PF Encoder	2:19		2:19
Frame Main Support	2:30		2:30
P/S Unit	2:55	1:25	4:20
Porous pad P/S Unit	3:07		3:07
Panel Unit	4:04		4:04
Panel Shaft	6:47		6:47
CR Scale & Spring	3:11		3:11
Holder Scale CR	3:31		3:31
Housing Upper Rear	3:17		3:17
Housing Front	4:38		4:38
Key Slot Assy	5:30		5:30
Base Right Support	6:05		6:05
Tank Upper Porous Pad	6:09		6:09
Ink Tank BK	7:09		7:09
Ink Tank CL (x3)	8:49		8:49
Ink System	3:19		3:19
Porous pad Ink Eject lower	4:04		4:04
Holder Housing Ink Eject	4:24		4:24
SCN Hinge	4:38		4:38
Holder Damper SC	4:44		4:44

Table 3-4. Standard Operation Time (ET-2850/L4260/ST-C2100 series)

Parts/Unit	Time		
	Replacement	Adjustment/ inspection	Total
Rack Damper SC	4:44		4:44
SCN Lock Boss	4:45		4:45
SCN Unit	4:45	0:49	5:34
Paper Set Detection Sensor Assy	5:34	3:47	9:21
Extension Spring 0.023	6:08		6:08
Paper Set Detection Sensor Lever	6:18		6:18
Upper Roller Paper Guide	6:25		6:25
Paper Set Detection Sensor FFC	5:41		5:41
Paper Set Detection Sensor Board	5:58		5:58
Sheet Stopper	5:43		5:43
Shaft LD Rear Assy	6:28	3:47	10:15
Holder Clutch Assy	6:37		6:37
Clutch Assy	6:05		6:05
Spur Gear Clutch 45.6	6:10		6:10
Extension Spring 0.137	5:51		5:51
Main Board	8:14	11:35	19:49
Cover Transistor	8:32		8:32
Heat Conduction Sheet	8:18		8:18
Wi-Fi Board	4:57		4:57
CR Driven Pully Assy	14:48		14:48
Main Frame Assy	15:51	8:18	24:09
CR Motor	16:38	3:28	20:06
Spur Gear 17.6	15:55		15:55

Table 3-4. Standard Operation Time (ET-2850/L4260/ST-C2100 series)

Parts/Unit	Time		
	Replacement	Adjustment/ inspection	Total
Compression Spring Transmission	15:59		15:59
CR Unit	17:08	6:09	23:17
PW Sensor	17:36	2:14	19:50
CR Encoder	17:47		17:47
CR Timing Belt	17:21		17:21
Head FFC	17:38		17:38
Head Grounding Plate	17:40	1:56	19:36
Main Frame	17:40		17:40
Frame ASF Rear Assy	7:37	3:47	11:24
Cover Lever Paper Return	8:02		8:02
Extension Spring 1.58	8:57		8:57
Holder Retard Assy	9:05		9:05
Lever Paper Return	10:10		10:10
Torsion Spring	10:12		10:12
Roller Upper ASF	7:54		7:54
Holder Roller Upper ASF	7:56		7:56
Compression Spring 1.50	7:59		7:59
PE Sensor Assy	8:26	2:14	10:40
PE Sensor	8:52	2:14	11:06
PE Sensor Holder	8:52		8:52
Paper Guide Upper Left Spring	9:43		9:43
Paper Guide Upper Left	13:13	1:51	15:04
Paper Guide Upper Right Spring	14:11		14:11
Paper Guide Upper Right	15:11	1:51	17:02
PF Roller Granding Spring	15:39		15:39

Table 3-4. Standard Operation Time (ET-2850/L4260/ST-C2100 series)

Parts/Unit	Time		
	Replacement	Adjustment/ inspection	Total
PF Roller	16:08	2:10	18:18
Spur Gear18.6(1)	16:13	1:51	18:04
Combination Gear 22.2	16:15	1:51	18:06
Frame Base Assy	15:51		15:51
Frame Cover Porous Pad	16:39		16:39
Paper Guide Lower Porous Pad D	16:43	0:02	16:45
Spur Gear16	17:05		17:05
Spur Gear13.6	17:05		17:05
Porous Pad Frame Cover	16:39		16:39
Paper Guide Lower Porous Pad B&C	16:43	0:02	16:43
EJ Roller Assy	16:49	1:51	18:40
Spur Gear23.4	17:14	1:51	19:05
Spur Gear18.6(2)	28:42	3:42	32:24
Frame Ground	22:10		22:10
PF Motor Assy	22:50	0:18	23:08
Frame Center Support	22:14		22:14
Paper Guide Lower Porous Pad Bend	22:22		22:22
Center Support	22:14		22:14
Change Lever Assy	16:04		16:04
Square Nut	15:58		15:58
Frame Holder ASF	19:45		19:45
Spur Gear21.6	19:51		19:51
Dual One way Clutch Assy	19:54		19:54

3.1.5 Checks and Precautions before Disassembling

3.1.5.1 Factors which Affect the Print Quality

WETTING OF VENTILATION FILM

The film under sealing film attached on the Ink Tank is breathable film. The air in the ink tank is released to outside through this film and then the air hole to keep ink supply to the Print Head stable. If the film gets wet with ink, the air in the tank is not properly released outside and may cause degradation in print quality.

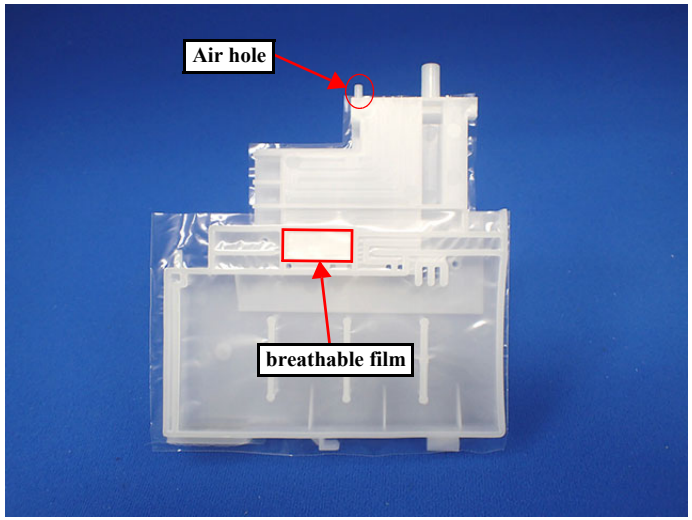
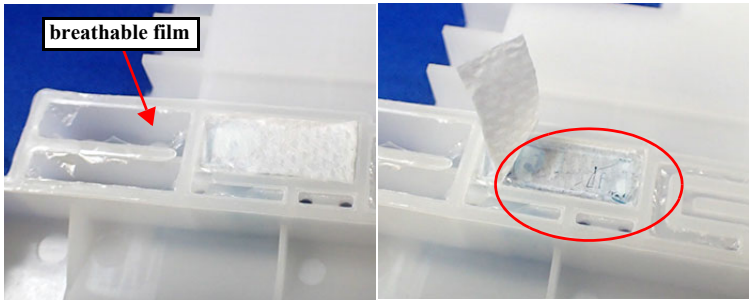


Figure 3-5. Breathable film/air hole

☐ **Determining whether the breathable film is wet or not**

ASSEMBLY

When the breathable film is wet, tank replacement is necessary. Because it is hard to notice that the film is wet just by visually checking its surface, determine that according to whether the ink has reached to a certain portion of the air chamber.



Hard to notice by seeing the surface　　Cyan ink soiled

When the ink has reached the red squared part of the air chamber shown below, breathable film is probably wet. In this case, replace the Ink Tank.

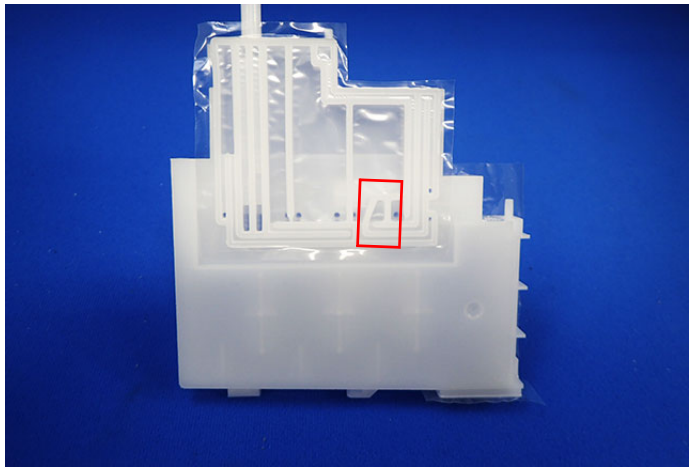


Figure 3-6. Wetting of breathable film

DIFFERENT TYPE OF INK MIXED IN INK TANK

From the specification of the CISS models, different type/color of ink may get mixed by mistaking the ink injection place. If there is a problem in printing result, the cause may be ink mixture, refer the following to handle the problem.

CHECK

Mixture of different type/color of the ink is state as follows.

Different type: pigment black ink and dye color ink mixed

- **The head nozzles may get clogged with solidified ink particles.**

Different color: dye color inks mixed.

- **A print quality problem will occur, but ink solidification will not occur.**

CAUTION

It is recommended to remove the user's Maintenance Box when performing the ink tube refresh because it consumes a lot of ink.

The powerful cleaning in the adjustment program corresponds to the ink tube refresh. Select “not to count up the waste ink counter” to prevent a mismatch between the program's waste ink counter and the counter of the user's Porous Pad Assy.*

Note "*": If you do not select the option, the waste ink counter will count up during the ink tube refresh.

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☐ How to deal with mixture of different type/color ink

When the ink got mixed, it is necessary to clean the CISS mechanism (from the Ink Tank to the Adapter).

There are the following two methods.

■ Replace the CISS mechanism

1. Replace the CISS mechanism
2. Remove the user's Maintenance Box and attach the Porous Pad for jigs.
3. To clean the head, inject CR02 into the tank.
4. Start "head cleaning" or "ink refill", select "not to count up the waste ink counter", then perform the ink tube refresh.*For ET-4850/L6290/ ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/ L6260 series, cleaning without counting up the waste ink counter is available only in the service support mode.
5. After each ink tube refresh, print a page to see if a blank page is printed (printed only with CR02). Repeat ink tube refresh until you get a blank page print.
6. Eject CR02 from the Ink Tank and fill the tank with new ink.
7. Perform the ink tube refresh again, and then check that the print quality has been recovered.

■ Cleaning inside the ink path (reusing the CISS mechanism)

1. Eject the ink inside the Ink Tank/ink tube.
2. Inject CR02 into the Tank to clean the head and the CISS mechanism.
3. Start the adjustment program, select "not to count up the waste ink counter", then repeat ink tube cleaning.
4. Start "head cleaning" or "ink refill", select "not to count up the waste ink counter", then repeat the ink tube refresh.*For ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/ L6260 series, cleaning without counting up the waste ink counter is available only in the service support mode.
5. Eject CR02 from the Ink Tank and fill the tank with new ink.
6. Perform the ink tube refresh again, and then check that the print quality has been recovered.

3.1.5.2 Minimizing Ink Leakage during Disassembly for Your Safety

Ink leakage may occur when removing ink-related parts from the printer. This section describes the parts that may cause ink leakage and how to prevent or minimize the leakage.

When the printer get soiled by the ink leakage, wipe the ink with a cloth wet with CR02. Do not use alcohol to the parts that touch the ink such as tube connecting part and adapter.

THE PARTS THAT MAY CAUSE INK LEAKAGE WHEN REMOVING

Parts name*	When ink leakage may occur	Location
Ink Tank	Removing the adapter tube from the Ink Tank.	A
Adapter	Removing the adapter tube from the adapter.	B
Adapter tube	• Removing the adapter tube from the Ink Tank. • Removing the adapter tube from the adapter.	A, B

Note "*": These parts are indicated with the ⚠ icon in disassembly/reassembly flowchart. (see " 3.3.3 Disassembly Flowchart (p94)")

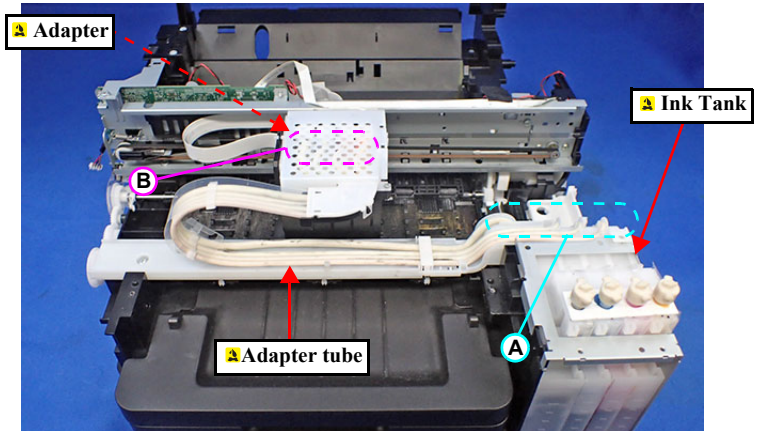


Figure 3-7. The Parts That May Cause Ink Leakage

HOW TO MINIMIZE THE INK LEAKAGE

Before disassembling, check the following methods.

☐ Removing adapter from the carriage

Before disconnecting the joint parts of the ink path, make sure to remove the Adapter from the Carriage.

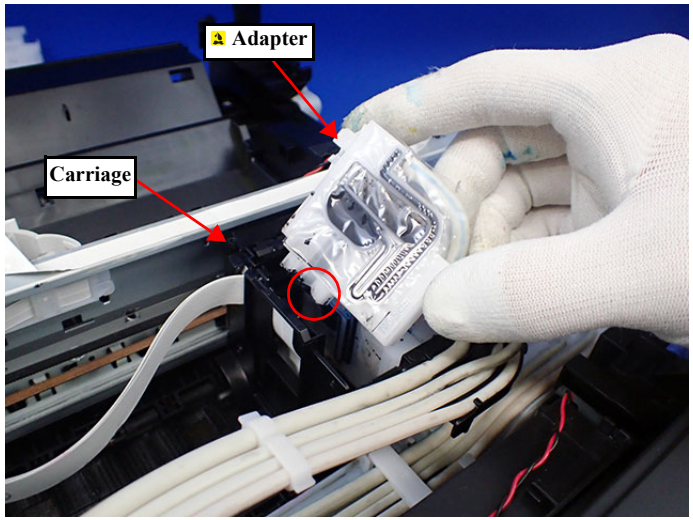


Figure 3-8. Ink leakage from adapter

☐ Disconnecting the Adapter and the Adapter Tube

Be careful not to press the film portion of the Adapter since doing so may cause ink to leak. Hold the Adapter by its plastic portion when disconnecting the Adapter tube.

In addition, before disconnecting the tube, pinch it with the tube clip and cover the tube end with a cloth to minimize ink leakage.

☐ Tools needed

- Tube clip
- Cloth

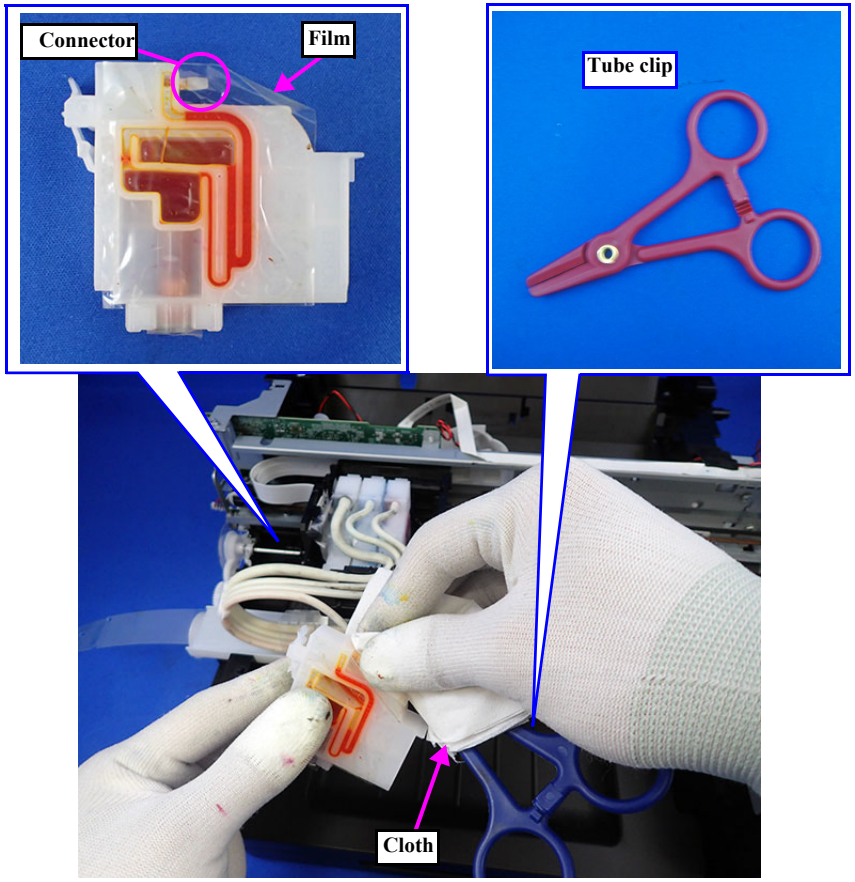


Figure 3-9. Disconnecting adapter and adapter tube (1)

When removing the adapter tube from the adapter in the procedure given below, ink may leak from the adapter tube. Perform disconnection off the printer and be careful not to soil printer and things around.

1. Pinch the adapter tube with a tube clip and remove it from the adapter.
2. To prevent ink leakage, plug a cotton swab into the tip of the adapter tube.
3. Remove the tube clip from the adapter tube.
4. Repeat Step 1 to Step 3 until all four adapter tubes are removed.

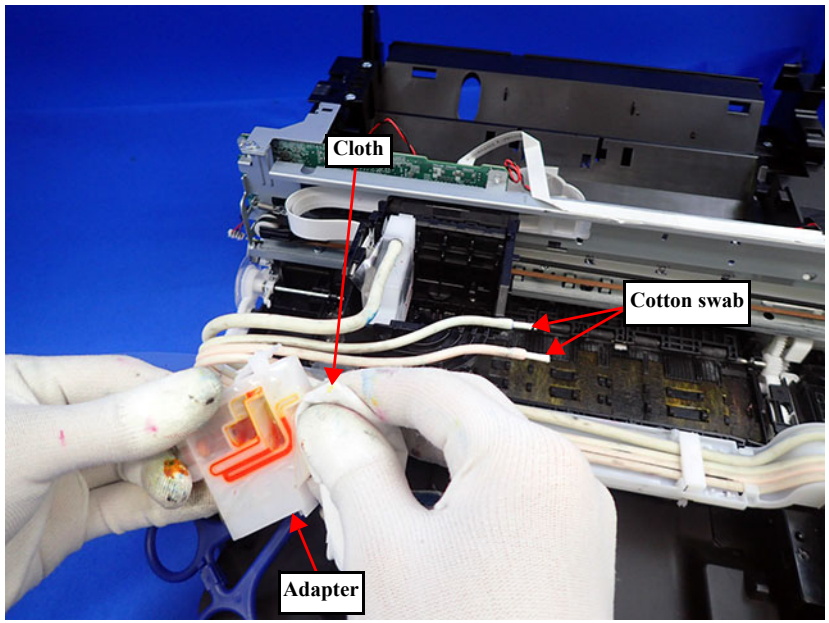


Figure 3-10. Disconnecting adapter and adapter tube (2)

3.1.5.3 Ink Discharging Procedure

Before removing the Ink Tank, discharge the ink in the procedure given below if necessary.

1. Disconnect the adapter from the printhead. (p 87)
2. Connect any syringe (standard: tip of the syringe = Φ3.2mm, capacity = 50 mL) to the disconnected adapter.
3. Open the Cap Hinge Tank.

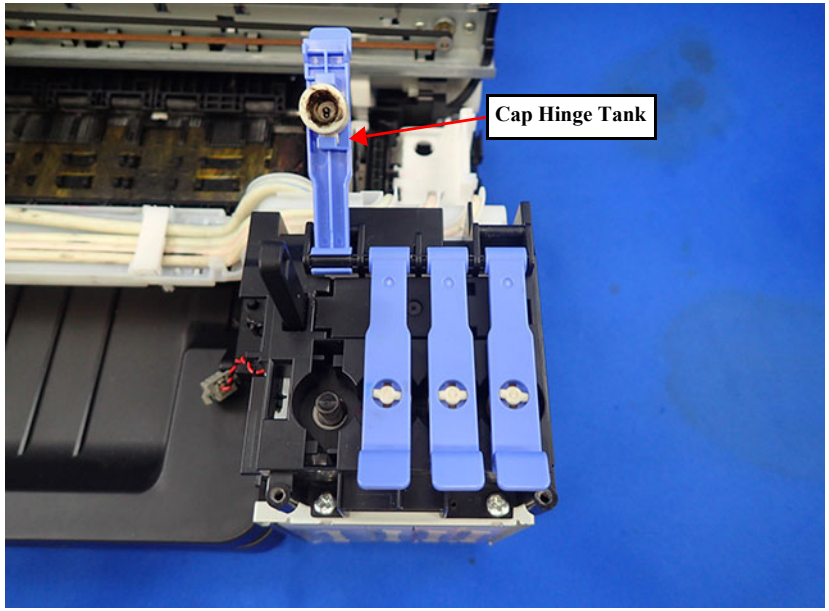


Figure 3-11. Ink discharging (1)

4. Suck out the ink inside the Ink Tank with the connected syringe.

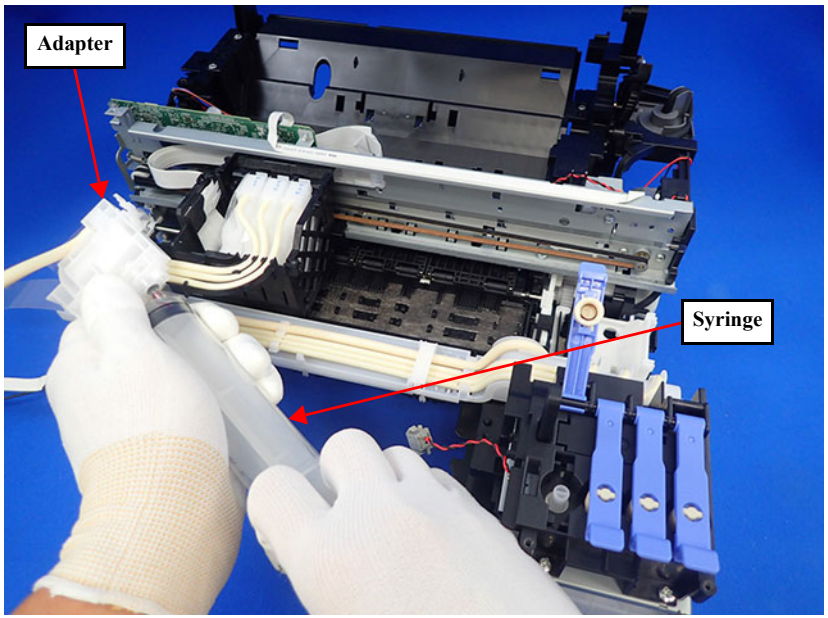


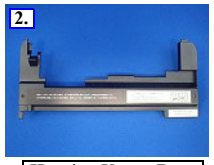
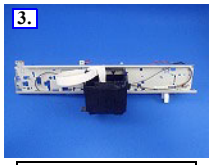
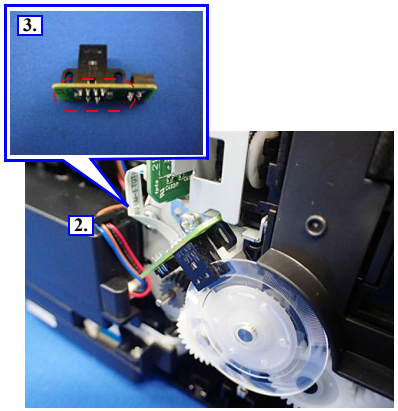
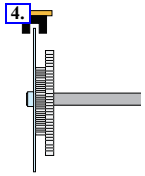
Figure 3-12. Ink discharging (2)

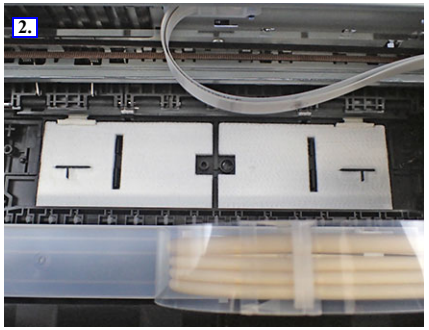
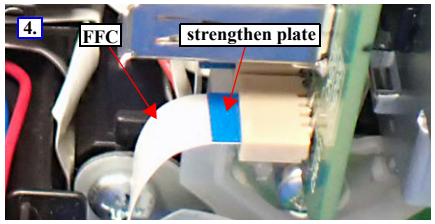
5. Repeat Step 1 to Step 4 for each color.

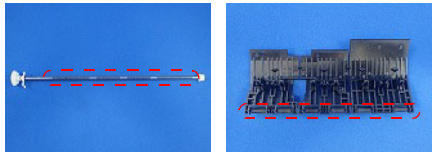
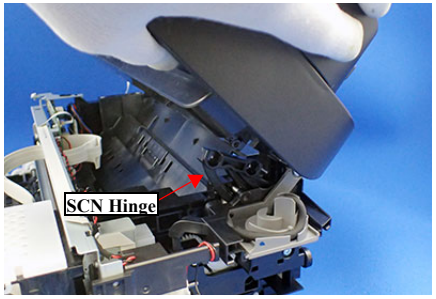
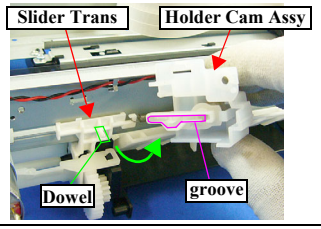
3.2 Common Cautions on Disassembly/Reassembly

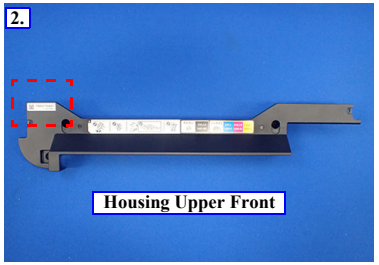
This section describes common cautions when disassembling/reassembling the product.

Before disassembling/reassembling a printer including this product, be sure to read Safety Precautions(P3) and this section.

Item	Content	Photo/Illustration
When handling parts	1. When handling new parts for replacement, take care not to contaminate or damage them. 2. Take care not to damage the FFCs/cables/Ink tube if there is a possibility of coming into contact with them. 3. When reassembling the product, take care not to let components of the unit come off.	 Housing Upper Rear  Main Frame Assy
When reassembling	Take care not to damage them when securing them by tightening screws.	Main Board Holder Core Fax
When applying grease	Do not lubricate any part other than those specified. If grease is applied on such a part, wipe it off completely.	---
External parts	Confirm visually that there are no scratches, dirt, and gaps.	---
Moving parts	After reassembling, confirm that there are no abnormal noises and they work smoothly.	---
Timing belts	1. Take care not to break them. 2. Confirm that it is installed properly onto the transmissive sections of the pinion gear/ driven roller.	
Motors	Take care not to damage the pinion gears.	---
Sensors	1. Take care not to touch the detector sections. 2. As for the encoder Sensor used with a circular scale, the photo sensor section should be set over the encoded area of the circular scale. 3. Take care not to get injured by the sharp ends of the board terminal on the back of the circuit boards when handling the sensors or the peripheral parts.	
Scales	1. Take care not to touch the encoded area. 2. Install it with the black section up. (CR Scale only) 3. Wipe the scale with alcohol before installing. (CR Scale only) 4. Confirm that they do not touch the photo sensors after installation.	

Item	Content	Photo/Illustration
Waste ink pads	1. Take care not to stain your hands with the waste ink soaked in the ink pads. If ink comes into contact with your hands, wash it off with water immediately. 2. Take care not to stain the printer's parts with the waste ink soaked in the ink pads. If ink comes into contact with the parts, wash it off. (Especially, pay attention to Paper Guide Front/Lower Porous Pad)	
FFCs	1. Be sure to insert them to their connectors on the boards as far as they will go without any loose connection such as a half-way or slant connection. 2. Route them along their routing paths. 3. If the double-sided tape that secures the FFCs is not strong enough to secure them, make sure to replace the tape and secure the FFCs firmly. 4. When connecting to the connector, be careful not to break the strengthen plate on the backside of the terminal of the FFC.	

Item	Content	Photo/Illustration
Gears	When installing gears, pay attention to the following: • The gear section should not be damaged. • No foreign material is attached. • No grease is attached on any parts other than those specified.	---
Paper feed rollers	Do not touch rollers for paper feeding when handling them.	
One Time parts	After removing One Time parts specified in this manual, do not reuse them, but be sure to replace them with new ones.	One Time icon:
ADF/ Scanner Unit	When removing the screw that secures the ADF/Scanner hinge, make sure to grasp the ADF/ Scanner Unit with your hand to prevent the unit from falling down and getting damaged. Because the dowel attached to the unit and the hinge easily comes off with the screw removed.	
Holder Cam Assy	Align the dowel on the Slider Trans with the groove on the Holder Cam Assy and attach them.	

Item	Content	Photo/Illustration
Ink System	1. Take care not to stain your hands with ink. 2. When you connect the ink tube to another part, insert the ink tube up to the root of the joint to prevent ink leakage and secure the tube with the tube clamp. 3. If it's hard to insert the ink tube to the joint, apply CR02 to the inserting part of the ink tube.	---
MAC Address Label	1. Take care not to stain or damage it. 2. When replacing the printer mechanism, make sure to install the existing Main Board and the part with the MAC address label (Housing Upper Front) to the new printer mechanism.	

3.3 Disassembly/Reassembly Procedures

3.3.1 Parts/Components Need to be Removed Before Disassembly/Reassembly

In " 3.3.3 Disassembly Flowchart (p94)", the procedures are indicated on the premise that some parts/units are removed in advance. Make sure to remove the following parts/units before starting disassembly.

☐ Duplex Unit

Figure 3-13. Removing the Duplex Unit

3.3.2 Functional differences between models and component parts

The products described in this manual employ the same printer mechanism, however, because of the functional differences, there are some structural differences between them.

The table below describes the differences.

Table 3-5. Function List According to Models

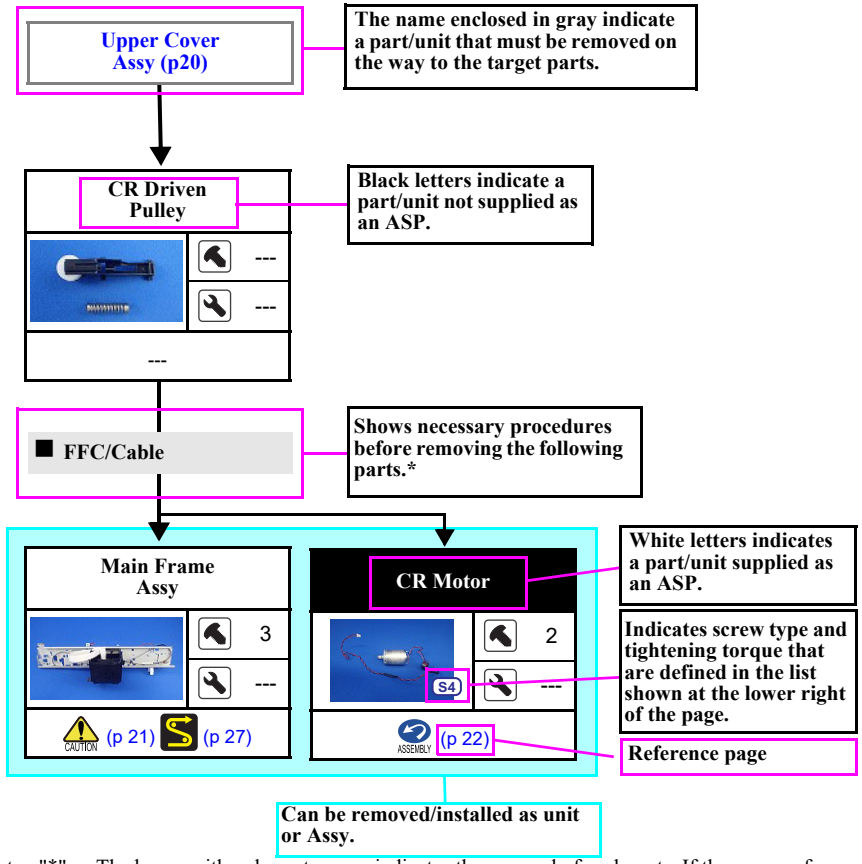
Function	ET-4850/L6290/ST-C4100 series	ET-3850/ET-3840/L6270 series	ET-3800/ET-3830/L6260 series	ET-2850/L4260/ST-C2100 series
Panel	Touch Panel 2.4 inch	LCD 2.4 inch		LCD 1.44 inch
ADF	✓	✓	---	---
Scanner	✓	✓	✓	✓
Print Head	µTFP1S			F2
Paper loading	Front loading			Rear loading
Duplex Unit	✓	✓	✓	✓
Fax	✓	---	---	---
Wi-Fi	✓	✓	✓	✓
Ethernet	✓	✓	✓	---
Maintenance Box	Replaceable by user			Not replaceable by user
Disassembly Flowchart Start Position	P.95			P.100

3.3.3 Disassembly Flowchart

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (see "3.3.4 Repairing Major Components Disassembly/Assembly Procedure" (p106) and "3.4 Detailed Disassembly/Reassembly Procedure for each Part/Unit" (p132)) For routing cables, see "3.4 Routing FFCs/cables" (p136)

CHECK

The example below shows how to see the charts on the following pages.


Upper Cover Assy (p20)
The name enclosed in gray indicate a part/unit that must be removed on the way to the target parts.
CR Driven Pulley
Black letters indicate a part/unit not supplied as an ASP.

■ FFC/Cable
Shows necessary procedures before removing the following parts.*
Main Frame Assy
CR Motor
White letters indicates a part/unit supplied as an ASP.
3

2
S4

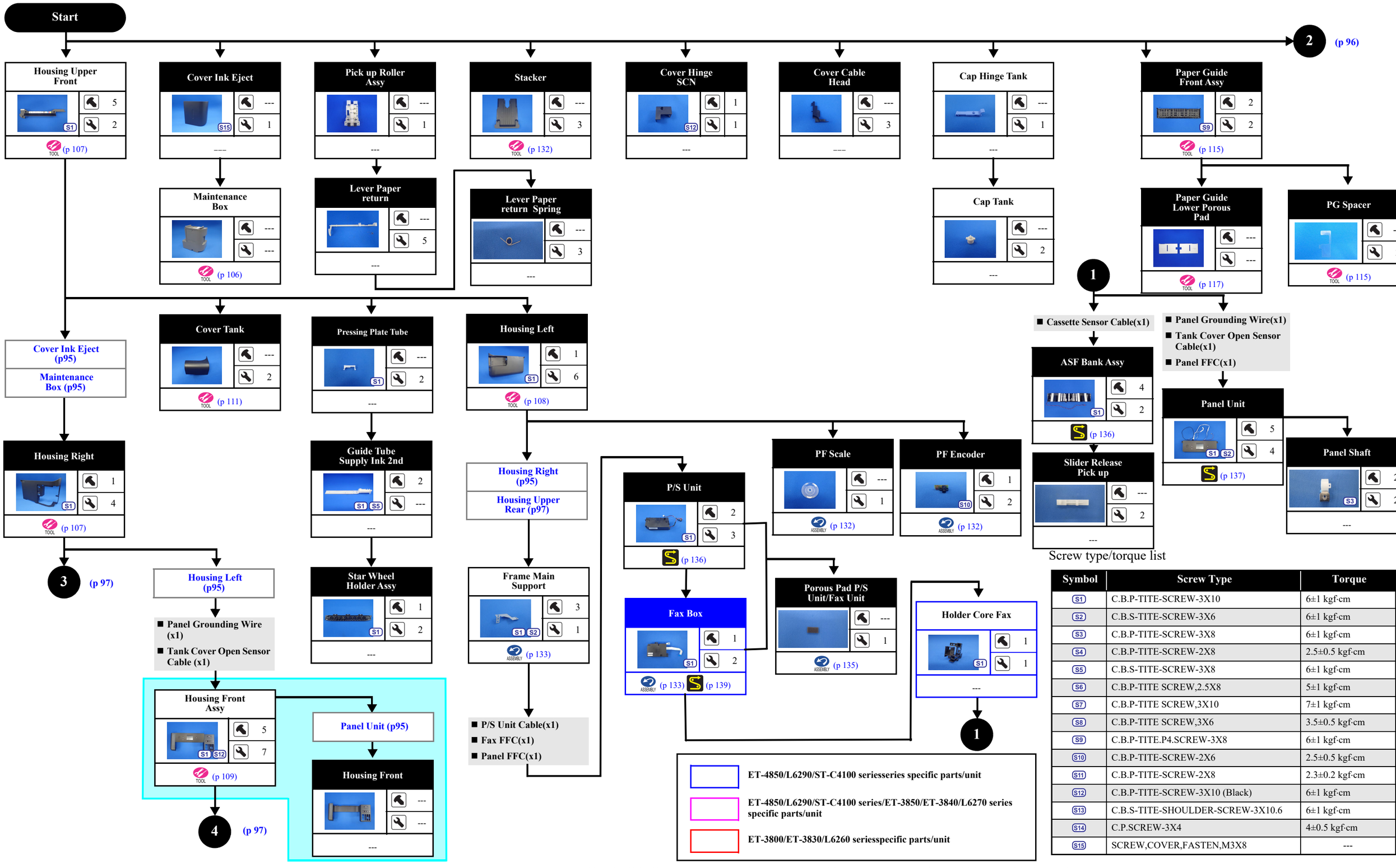
(p 21)
(p 27)
(p 22)
Indicates screw type and tightening torque that are defined in the list shown at the lower right of the page.
Reference page
Can be removed/installed as unit or Assy.

Note "*": The boxes with only part names indicates the removal of such parts. If the names of FFCs or cables are shown, disconnect the FFCs or cables from their connectors.

Item		Description	Reference
Parts/unit name	White-letter	Part/unit supplied as an ASP	---
	Black-letter	Part/unit not supplied as an ASP	---
Icon	WARNING	Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
	CAUTION	Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	---
	CHECK	Indicates necessary check items in the disassembling/assembling procedure.	Indicates the reference page in blue-letter
	TOOL	Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
	ASSEMBLY	Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
	ADJUSTMENT	Indicates particular adjustment(s) is/are required.	Chapter 4 " Adjustment (p140)"
	LUBRICATION	Indicates lubrication is required.	Chapter 5 " Maintenance (p163)"
		Indicates the number of screws securing the parts/units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

Confidential

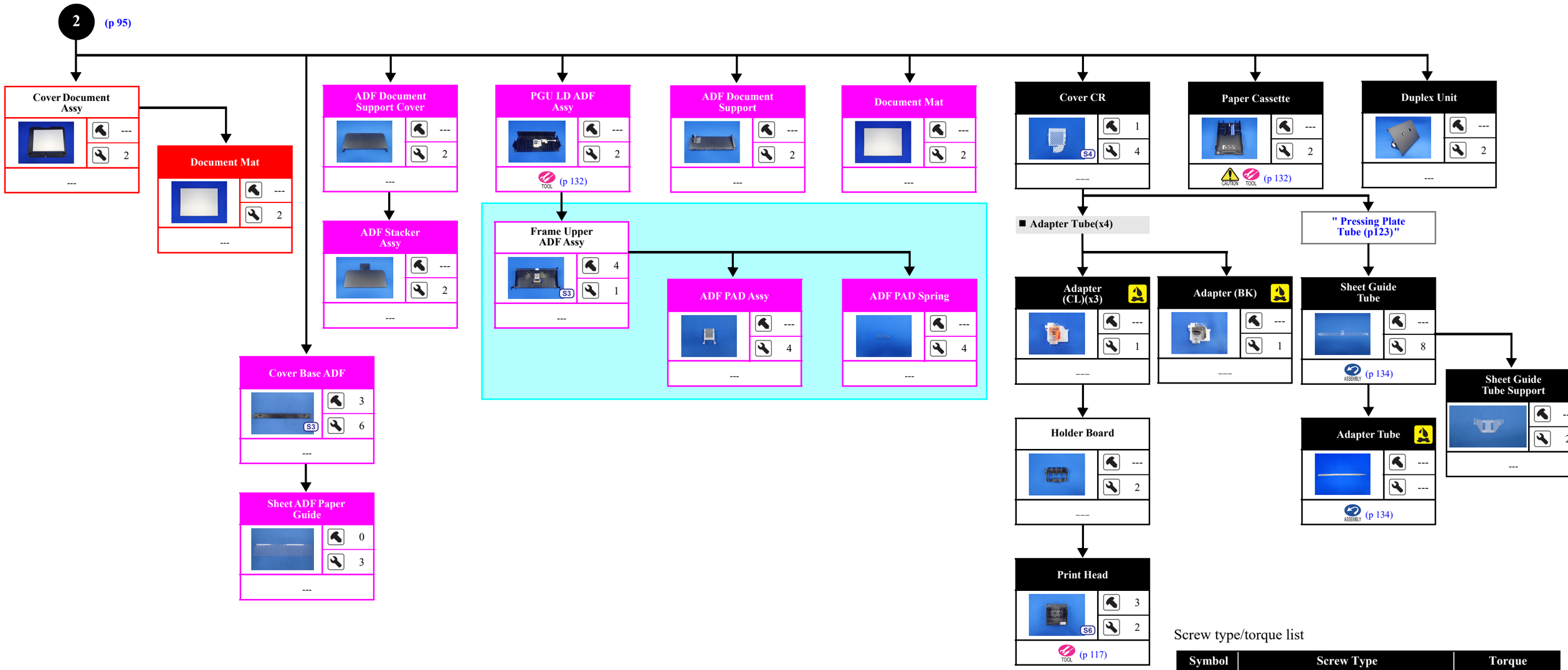
3.3.3.1 Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

Flowchart 3-1. Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) (1)



ET-4850/L6290/ST-C4100 seriesseries specific parts/unit

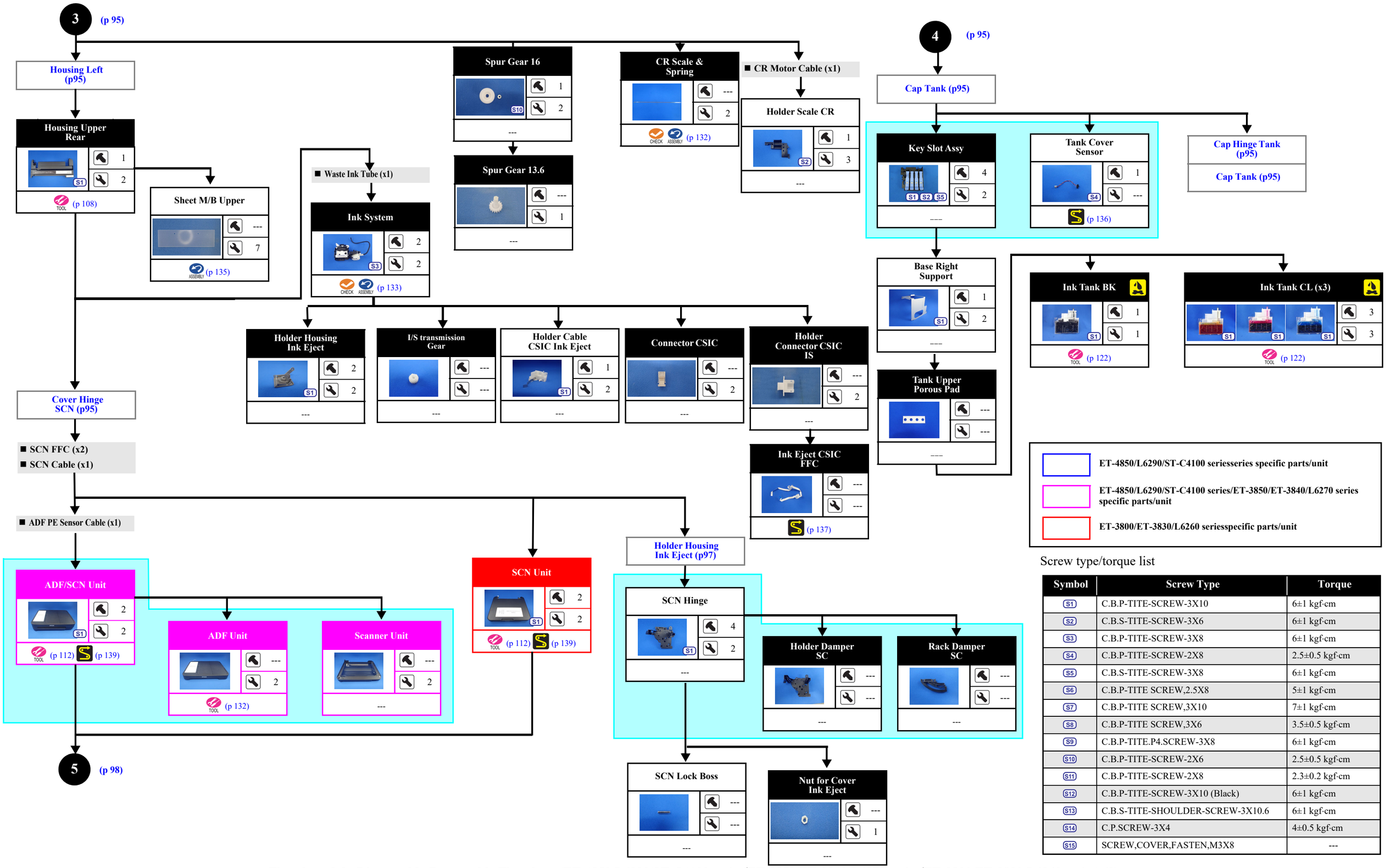
ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series specific parts/unit

ET-3800/ET-3830/L6260 seriesspecific parts/unit

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

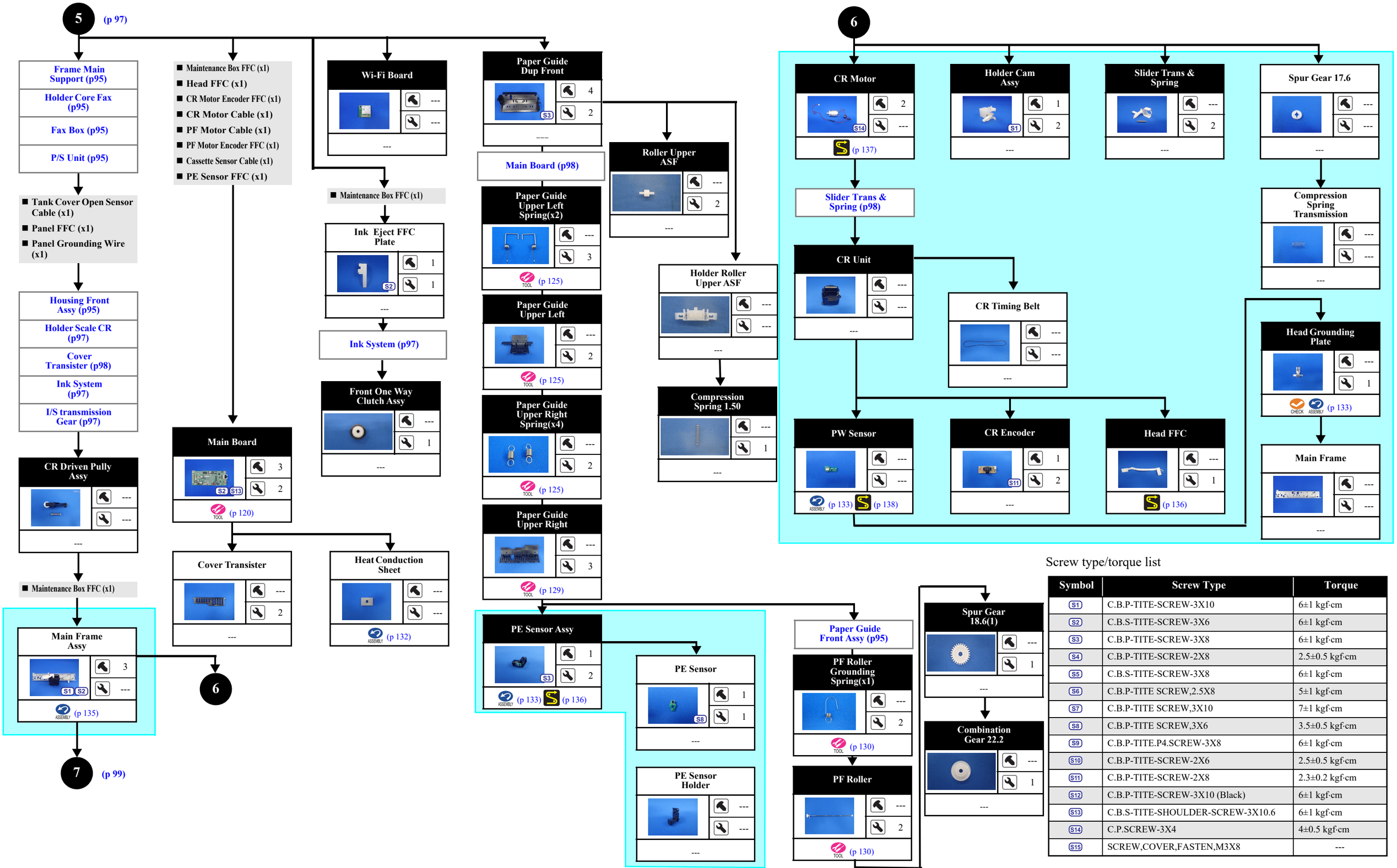
Flowchart 3-2. Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) (2)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

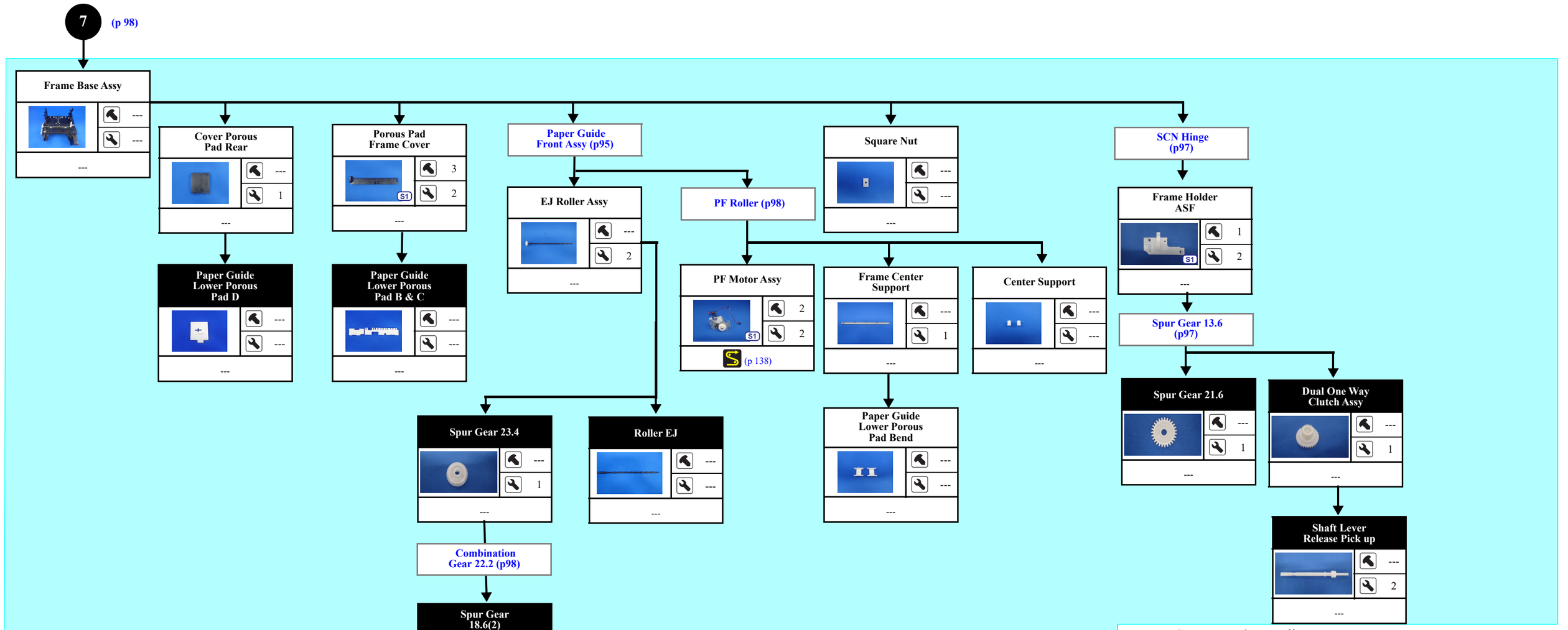
Flowchart 3-3. Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) (3)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

Flowchart 3-4. Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) (4)

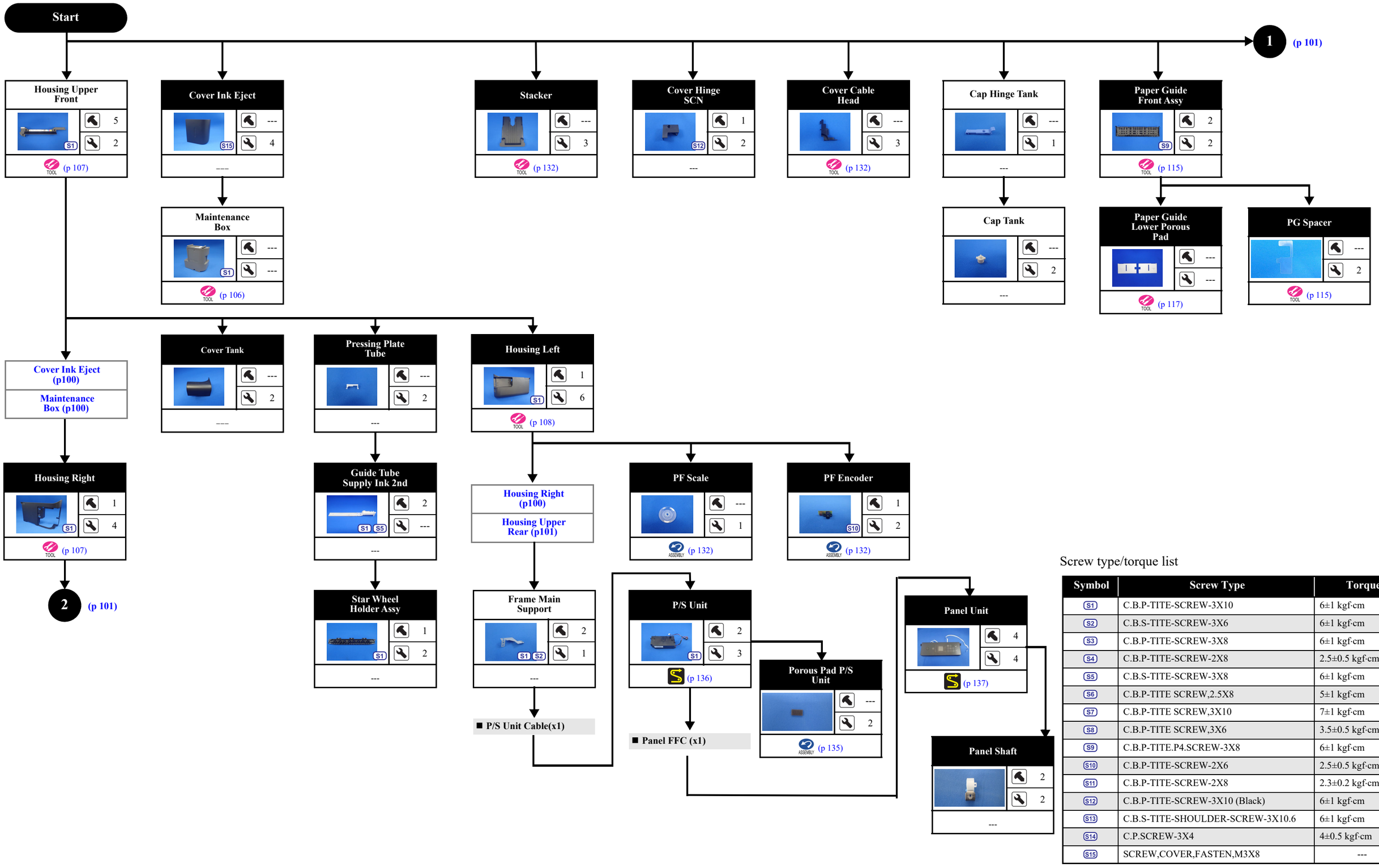


Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

Flowchart 3-5. Disassembly/Reassembly Flowchart (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) (5)

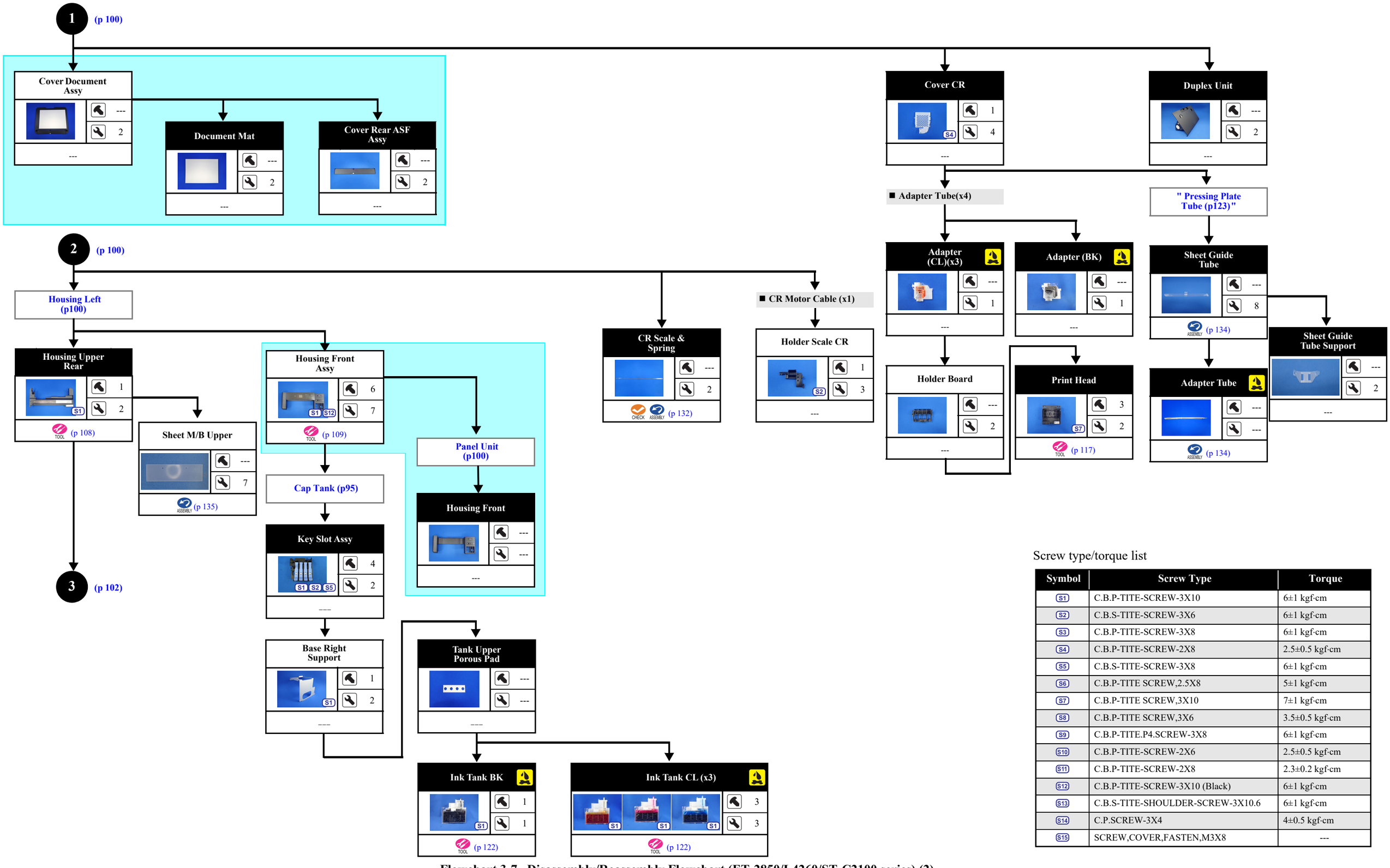
3.3.3.2 Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

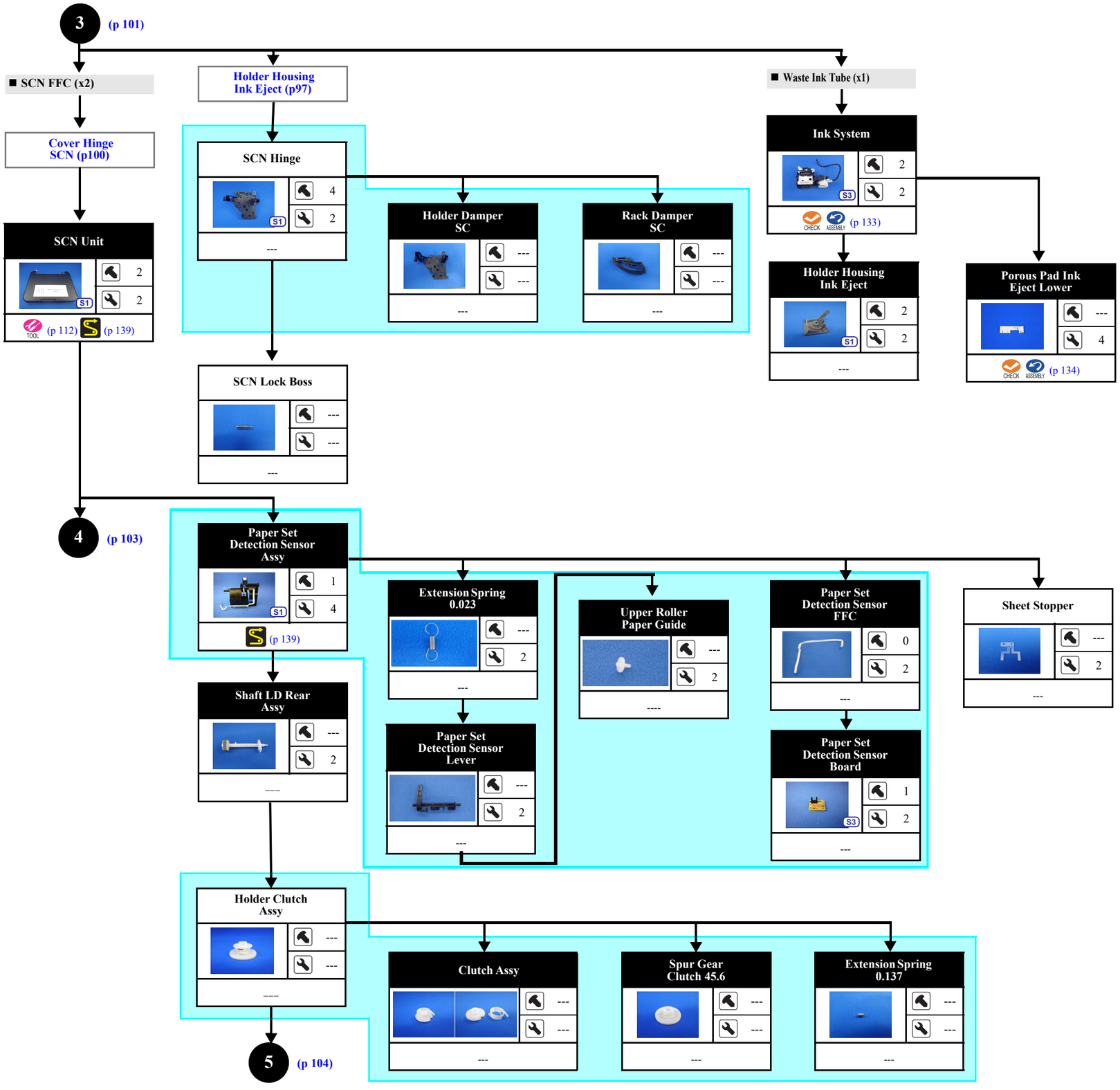
Flowchart 3-6. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (1)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

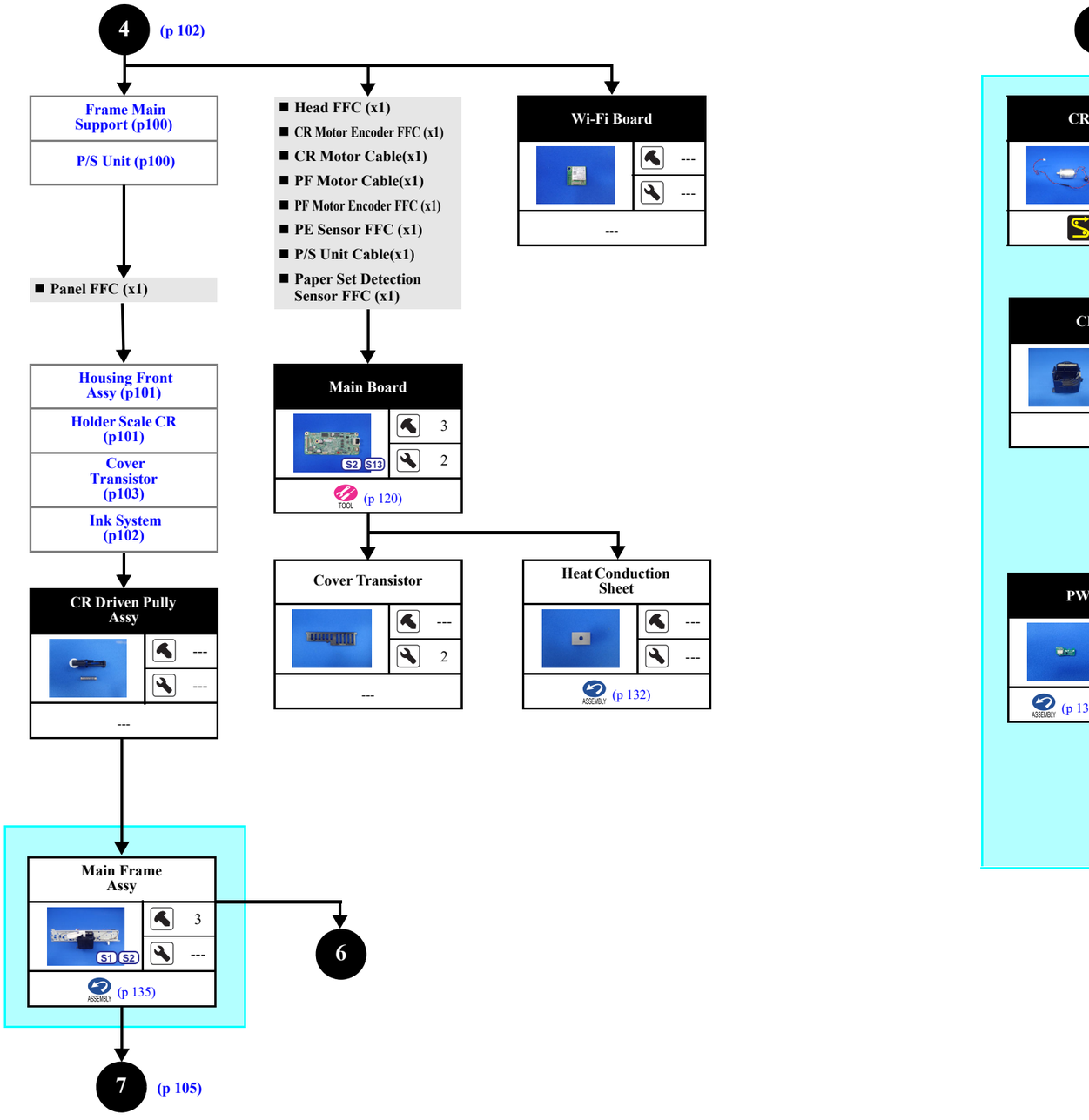
Flowchart 3-7. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (2)

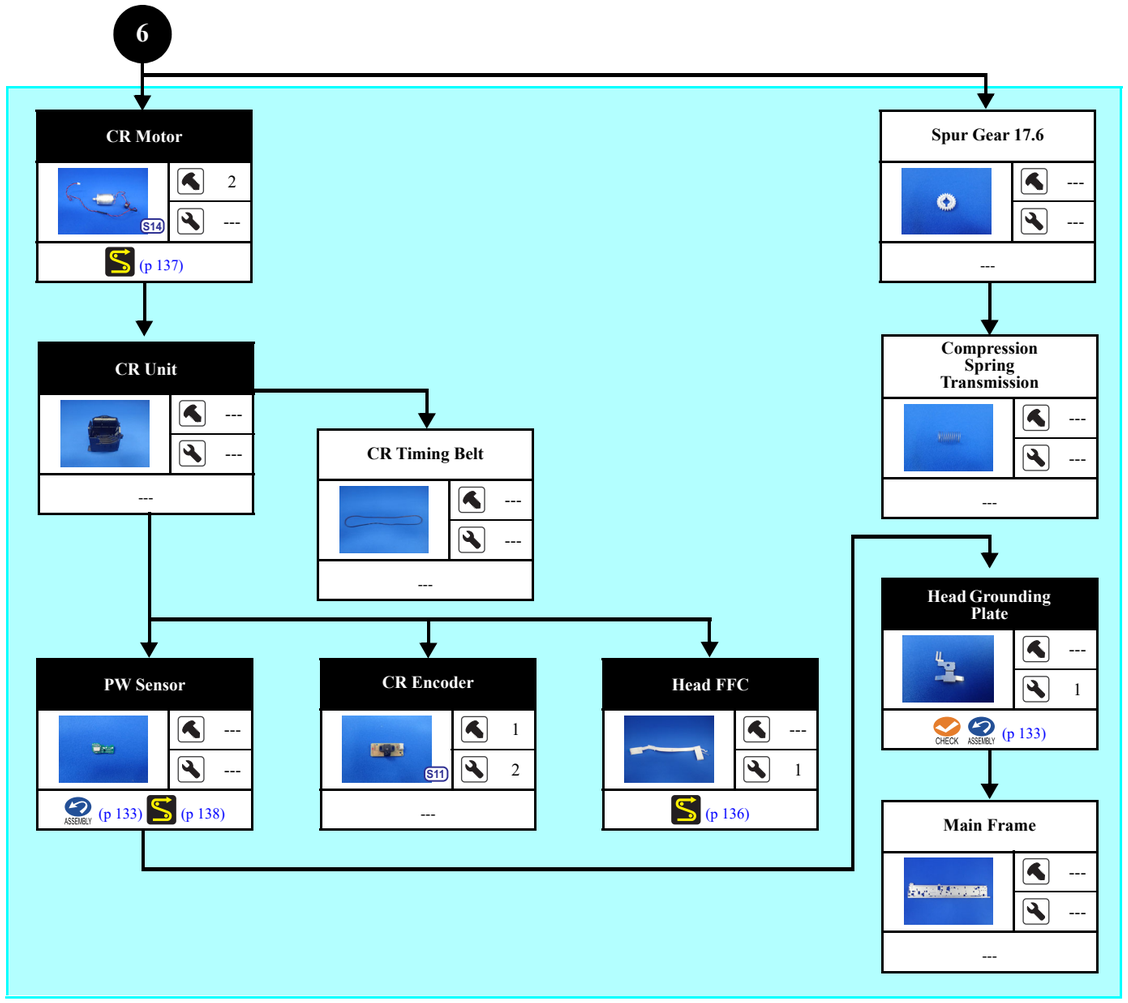


Flowchart 3-8. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (3)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

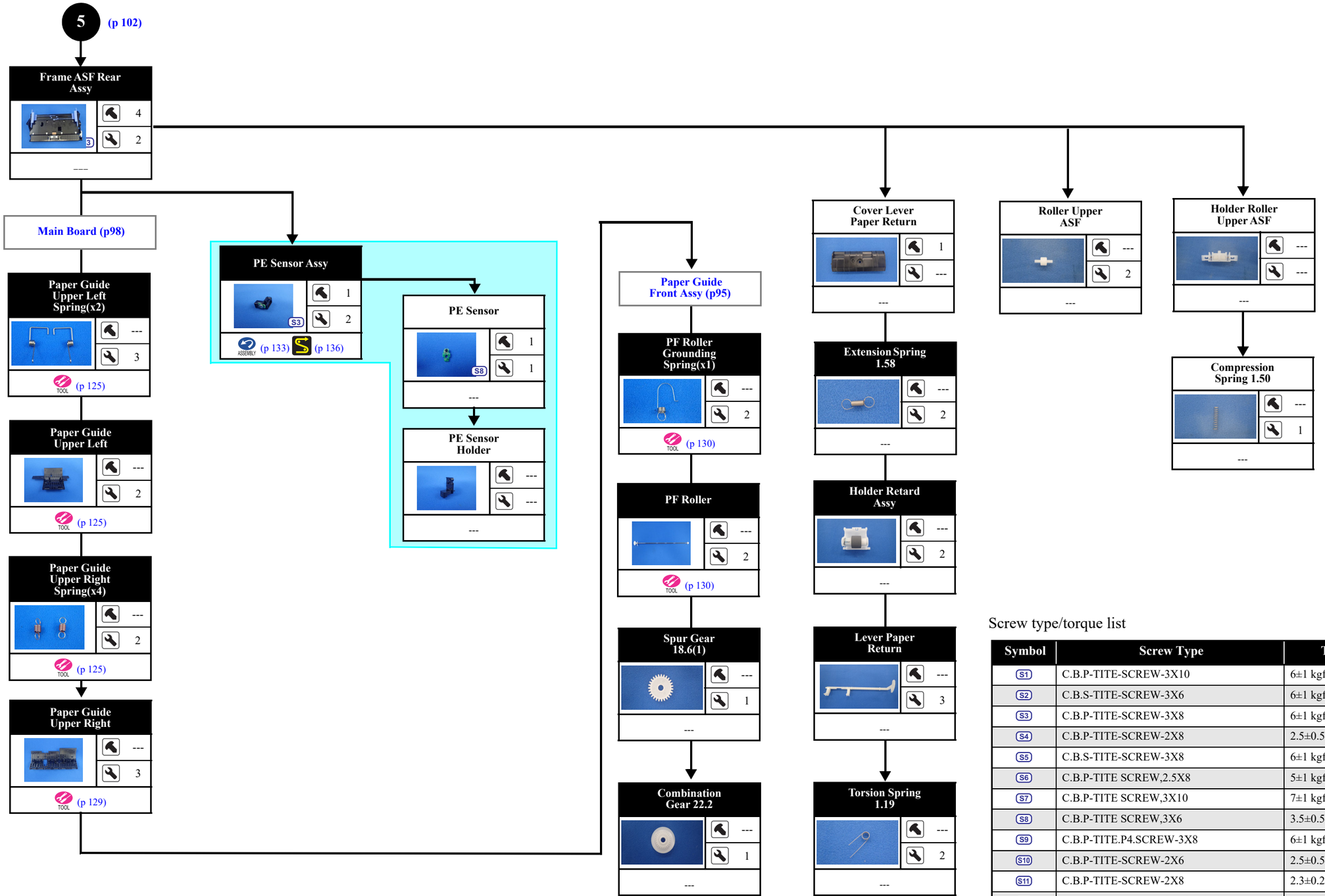




Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

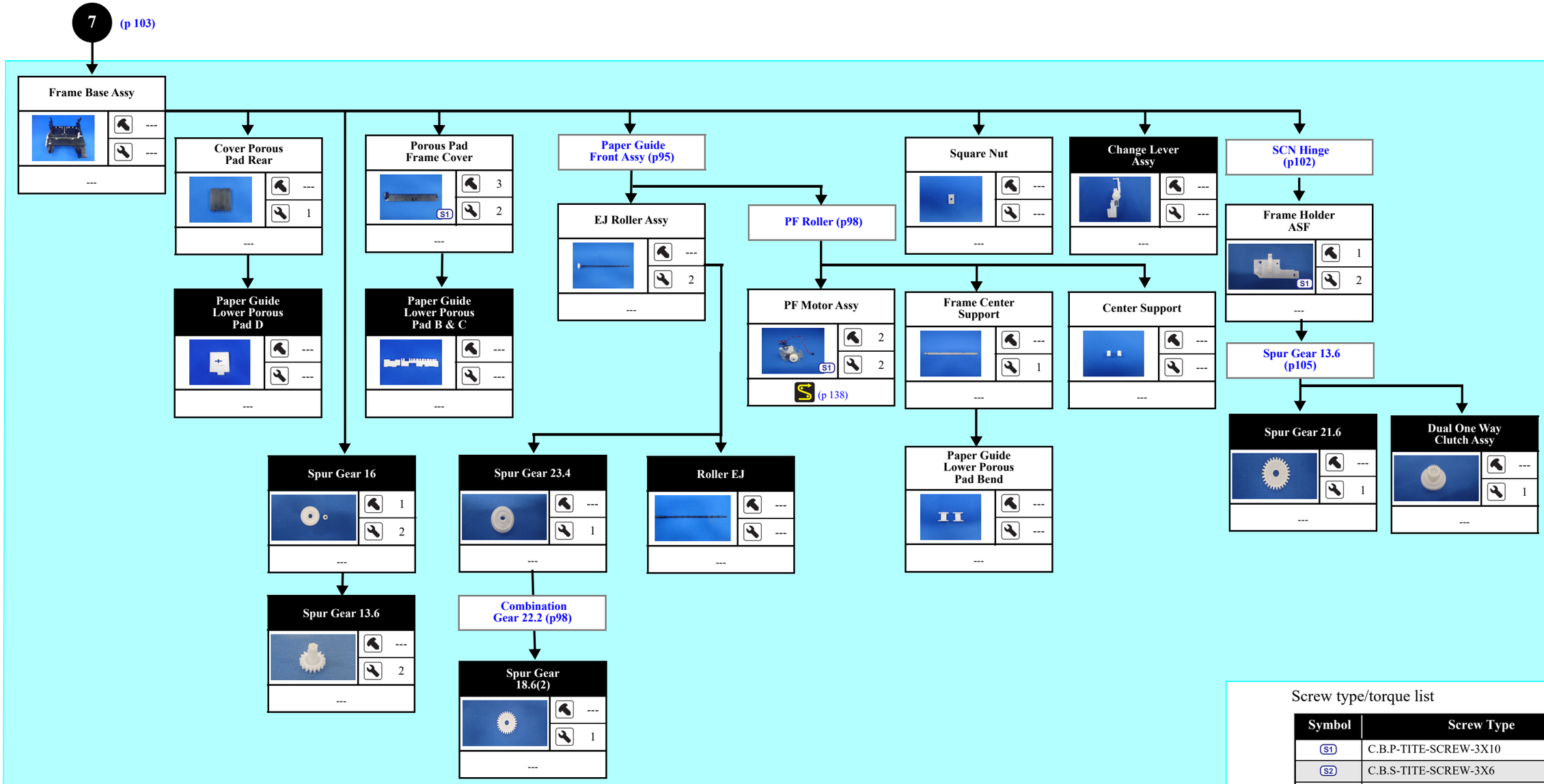
Flowchart 3-9. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (4)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

Flowchart 3-10. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (5)



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE-SCREW-3X10	6±1 kgf·cm
S2	C.B.S-TITE-SCREW-3X6	6±1 kgf·cm
S3	C.B.P-TITE-SCREW-3X8	6±1 kgf·cm
S4	C.B.P-TITE-SCREW-2X8	2.5±0.5 kgf·cm
S5	C.B.S-TITE-SCREW-3X8	6±1 kgf·cm
S6	C.B.P-TITE SCREW,2.5X8	5±1 kgf·cm
S7	C.B.P-TITE SCREW,3X10	7±1 kgf·cm
S8	C.B.P-TITE SCREW,3X6	3.5±0.5 kgf·cm
S9	C.B.P-TITE.P4.SCREW-3X8	6±1 kgf·cm
S10	C.B.P-TITE-SCREW-2X6	2.5±0.5 kgf·cm
S11	C.B.P-TITE-SCREW-2X8	2.3±0.2 kgf·cm
S12	C.B.P-TITE-SCREW-3X10 (Black)	6±1 kgf·cm
S13	C.B.S-TITE-SHOULDER-SCREW-3X10.6	6±1 kgf·cm
S14	C.P.SCREW-3X4	4±0.5 kgf·cm
S15	SCREW,COVER,FASTEN,M3X8	---

Flowchart 3-11. Disassembly/Reassembly Flowchart (ET-2850/L4260/ST-C2100 series) (6)

3.3.4 Repairing Major Components Disassembly/ Assembly Procedure

CHECK

- **Items with underline in this section are describing disassembly procedure of parts/unit supplied as ASP.**
- **In this section, basically the pictures of ET-4850/L6290/ ST-C4100 series are used to describe the disassembling procedure.**

3.3.4.1 Maintenance Box

CAUTION

The screw which is securing the Cover Ink Eject cannot be removed because the fastener is attached.

1. Loosen the screw fixing the Cover Ink Eject.
2. Remove the Cover Ink Eject in the direction of the arrow.

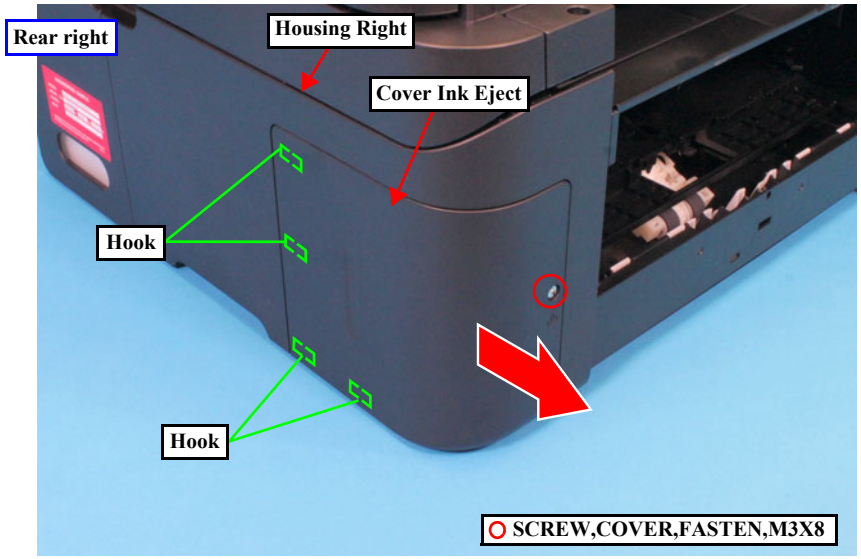


Figure 3-14. Removing the Ink Cover Eject

CHECK

Step is for ET-2850/L4260/ST-C2100 series only. For other models, go to Step 3.

3. Remove the Maintenance Box in the direction of the arrow.

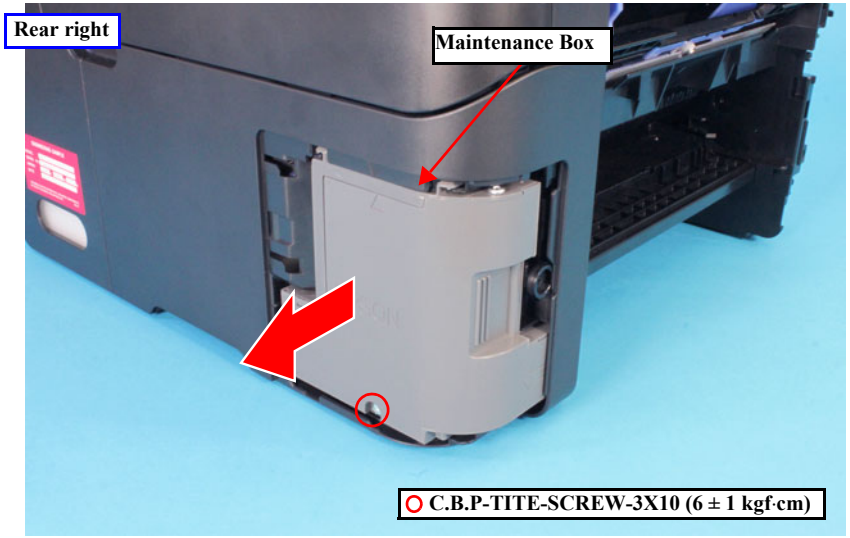


Figure 3-15. Removing the Maintenance Box

ASSEMBLY

When reassembling the Cover Ink Eject, insert the four hooks on the cover to the Housing Right. (Figure 3-14)

3.3.4.2 Exterior Parts

3.3.4.2.1 Housing Upper Front

1. Open the Housing upper Assy.
2. Remove the five screws and remove the Housing Upper Front.

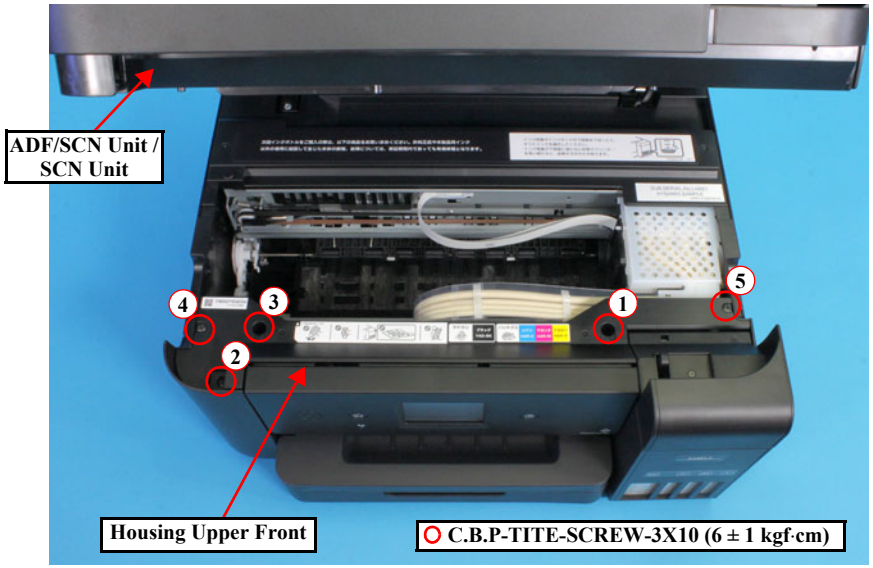


Figure 3-16. Removing the Housing Upper Front

ASSEMBLY

Screw in the order given in Figure 3-16.

3.3.4.2.2 Housing Right

1. Remove the Housing Upper Front. (p107)
2. Remove the Maintenance Box. (p106)

CAUTION

When removing the screw on the bottom, avoid laying the product on its side. If you repeat tipping and laying the product on its side over and over again, ink may enter the air hole and cause a drop in the print quality, or ink may leak during transport.

3. Remove the screw on the bottom.
4. Release the two hooks and remove the Housing Right in the direction of the arrow.

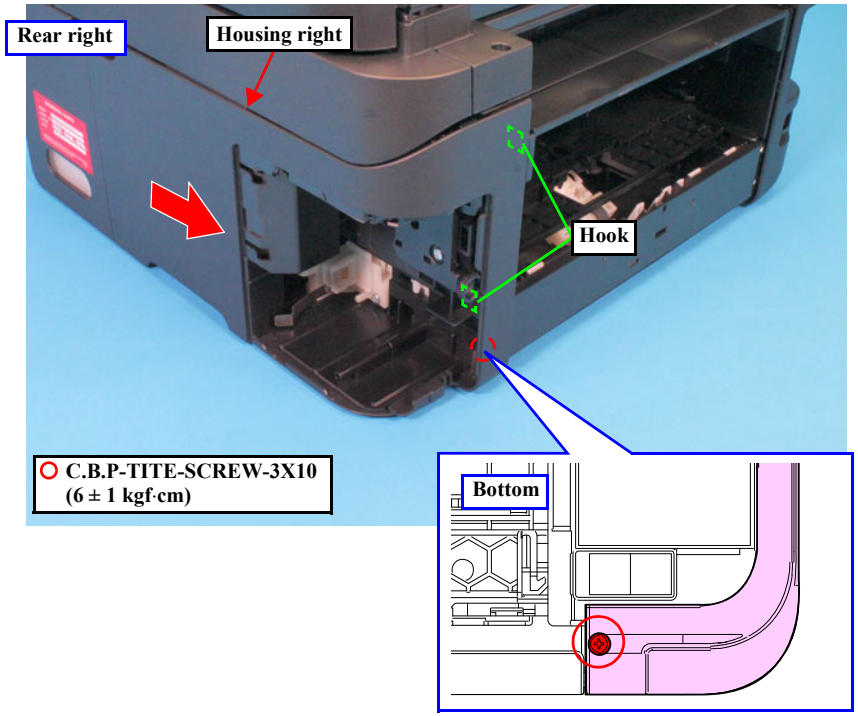


Figure 3-17. Removing the Housing Right

3.3.4.2.3 Housing Left

1. Remove the Housing Upper Front. (p107)

CAUTION

When removing the screw on the bottom, avoid laying the product on its side. If you repeat tipping and laying the product on its side over and over again, ink may enter the air hole and cause a drop in the print quality, or ink may leak during transport.

2. Remove the screw on the bottom.
3. Release the hook and remove the Housing Left in the direction of the arrow.

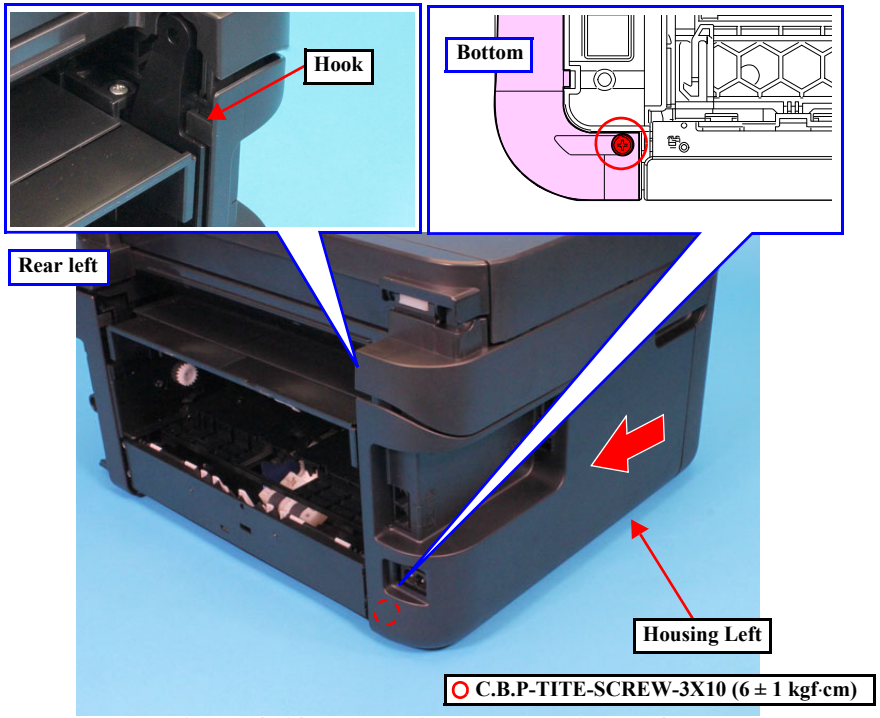


Figure 3-18. Removing the Housing Left

3.3.4.2.4 Housing Upper Rear

1. Remove the Housing Upper Front. (p107)
2. Remove the Maintenance Box. (p106)
3. Remove the Housing Right. (p107)
4. Remove the Housing Left. (p108)
5. Remove the screw.
6. Release the hook by sliding the Housing Upper Rear in the direction of the arrow and remove the Housing Upper Rear.

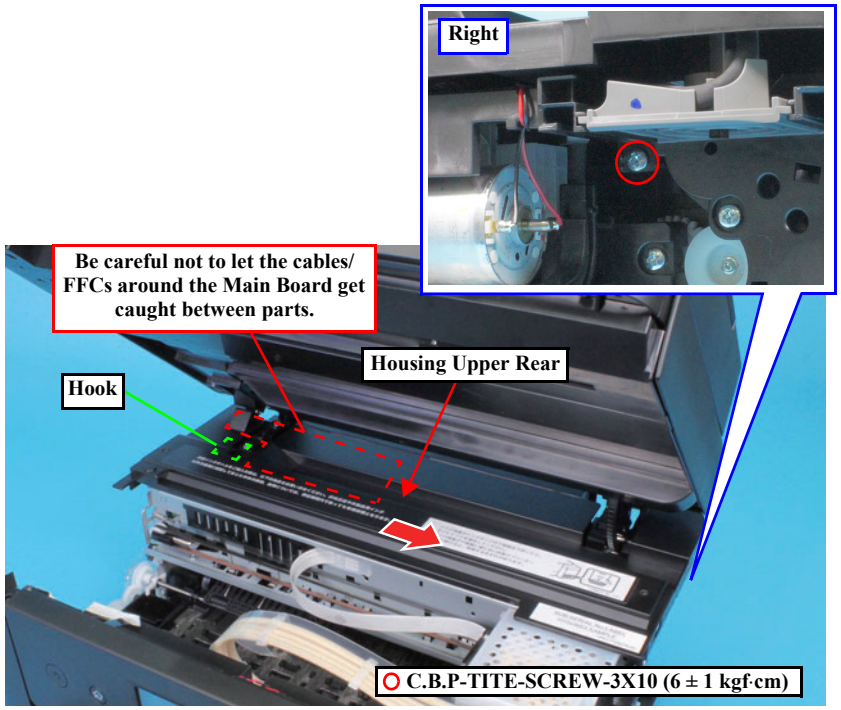

Right
Be careful not to let the cables/ FFCs around the Main Board get caught between parts.
Housing Upper Rear
Hook
C.B.P-TITE-SCREW-3X10 (6 ± 1 kgf·cm)

Figure 3-19. Removing the Housing Upper Rear

ASSEMBLY

When reassembling the Housing Upper Rear, be careful not to let the cables get caught between parts.

3.3.4.2.5 Housing Front

1. Remove the Housing Upper Front. (p.107)
2. Remove the Maintenance Box. (p.106)
3. Remove the Housing Right. (p.107)
4. Remove the Housing Left. (p.108)

CHECK

From here, procedure differs depending on the product model as described below.

- **ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/ L6270 series/ET-3800/ET-3830/L6260 series**
  Perform Step 5 (p.109) and Step 6 (p.109) before going to Step 7 (p.110).
- **ET-2850/L4260/ST-C2100 series**
  Go to Step 3-20 (p.109).

5. Remove the Relay Connector of the Tank Cover Sensor Cable. (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)
6. Remove the screw and release the Panel Grounding Cable from the three slits on the Frame Base Assy. (ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)

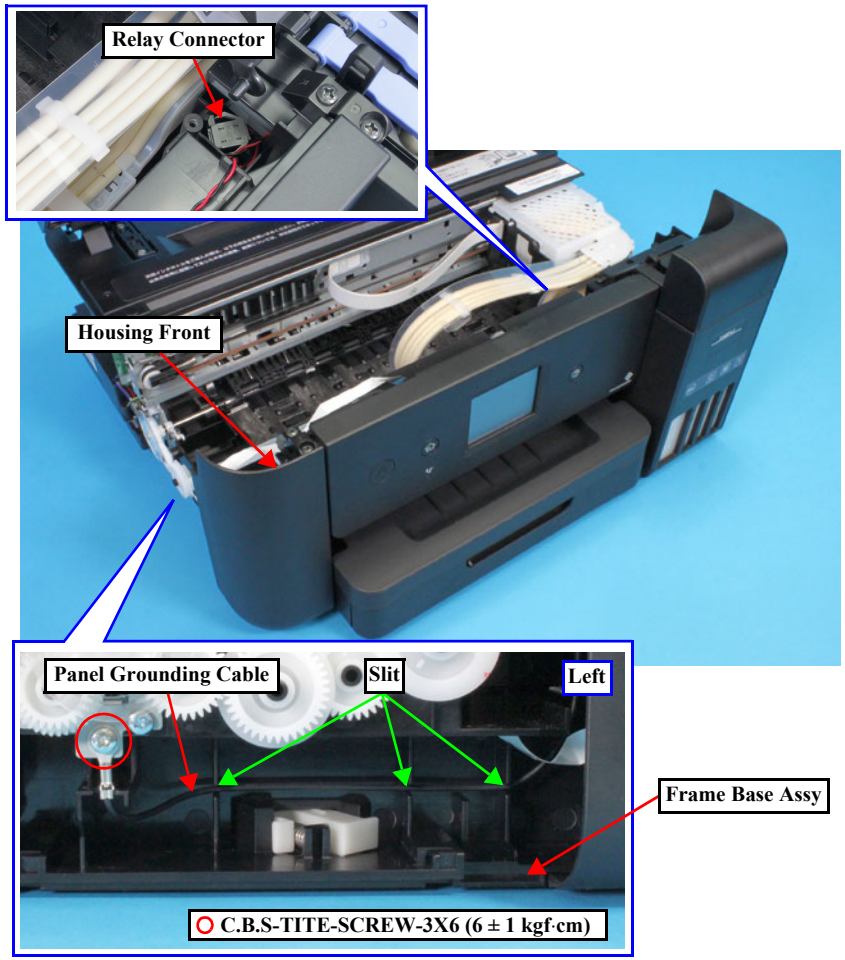


Figure 3-20. Releasing the Panel Grounding Cable (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)

CAUTION

When removing the screw on the bottom, avoid laying the product on its side. If you repeat tipping and laying the product on its side over and over again, ink may enter the air hole and cause a drop in the print quality, or ink may leak during transport.

7. Remove the screw on the bottom.
8. Remove the screws (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series: four screws, ET-2850/L4260/ST-C2100 series: five screws).

CAUTION

In the next step, Housing Front cannot be removed completely because the Panel FFC is connected to the Main Board.

9. Remove the Housing Front Assy from the two dowels on the Frame Base Assy.

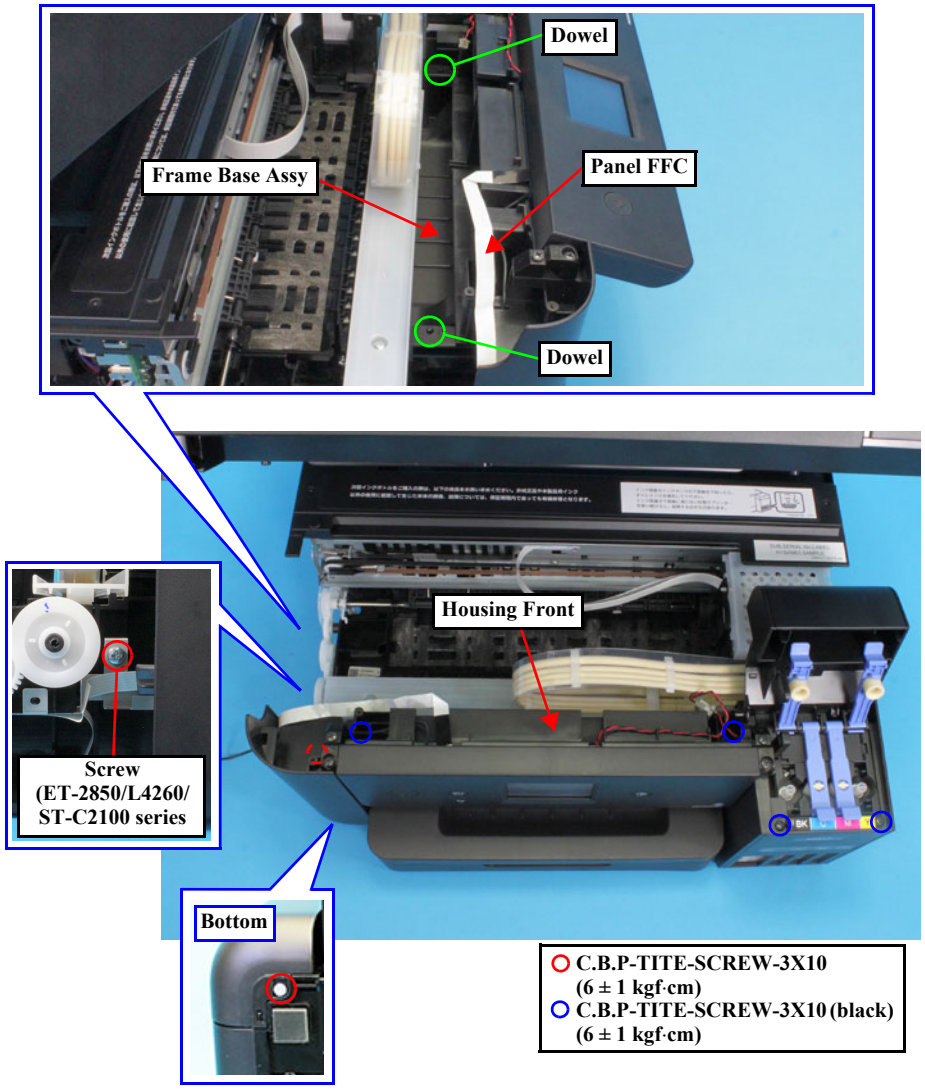


Figure 3-21. Removing the Housing Front Assy

10. Remove the four screws.
11. Remove the Panel Unit From the Housing Front Assy and remove the Housing Front.

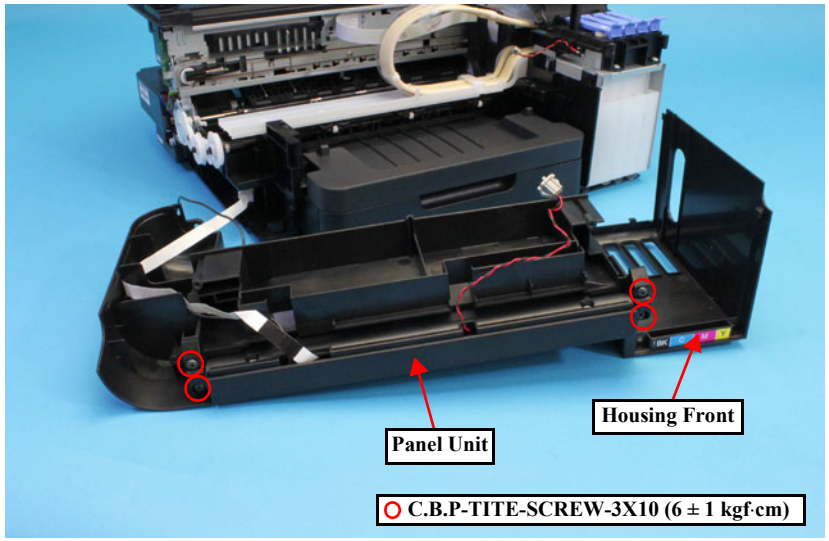
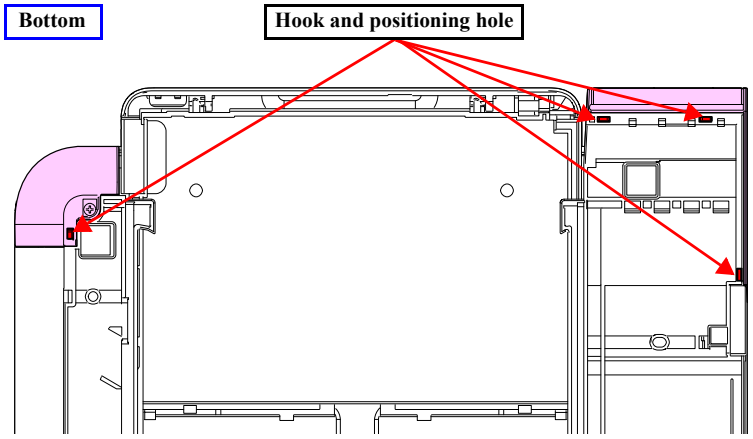


Figure 3-22. Removing the Housing Front

ASSEMBLY

On the bottom, make sure to insert the four positioning holes of the Housing Front over the hooks of the Frame Base Assy.



3.3.4.2.6 Cover Tank

1. Remove the Housing Upper Front. (p107)
2. Remove the Cover Tank in the direction of the arrow from the two shafts on the Key Slot Assy.

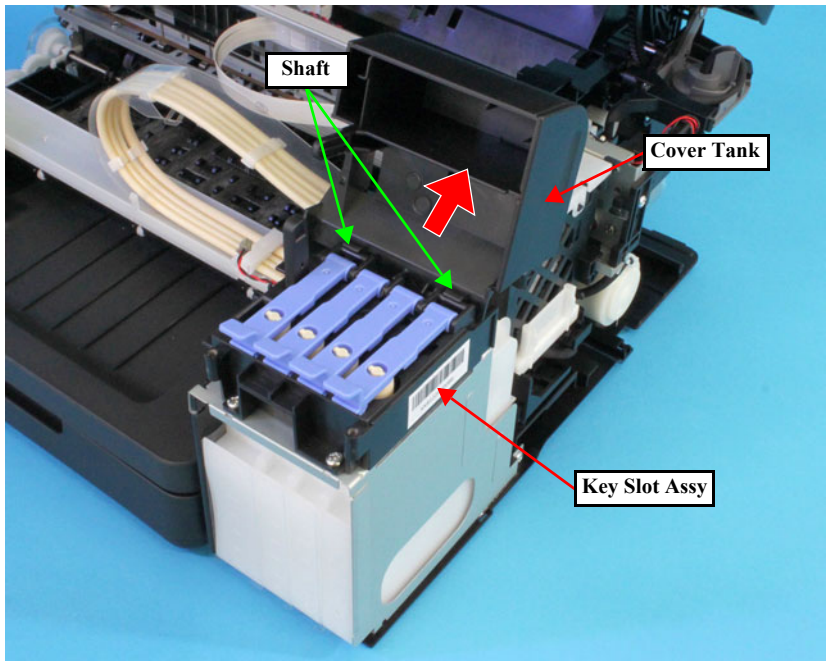


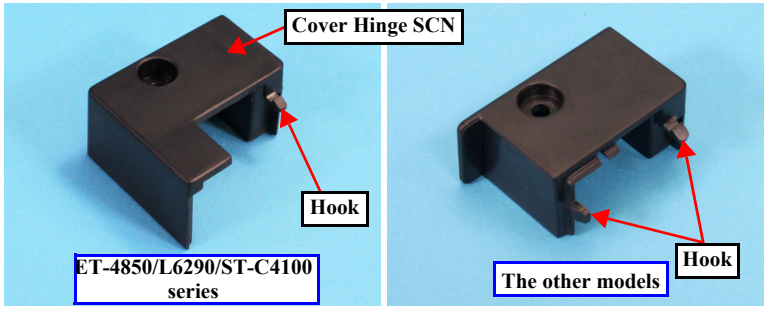
Figure 3-23. Removing the Cover Tank

3.3.4.3 ADF/SCN Unit or SCN Unit

1. Remove the Housing Upper Front. (p.107)
2. Remove the Maintenance Box. (p.106)
3. Remove the Housing Right. (p.107)
4. Remove the Housing Left. (p.108)
5. Remove the Housing Upper Rear. (p.108)
6. Remove the screw securing the Cover Hinge SCN.

CAUTION

When removing the Cover Hinge SCN, be careful not to damage the hook.



7. Release the hook by rotating the Cover Hinge SCN while pushing it in the direction of the red arrow and remove the Cover Hinge SCN.

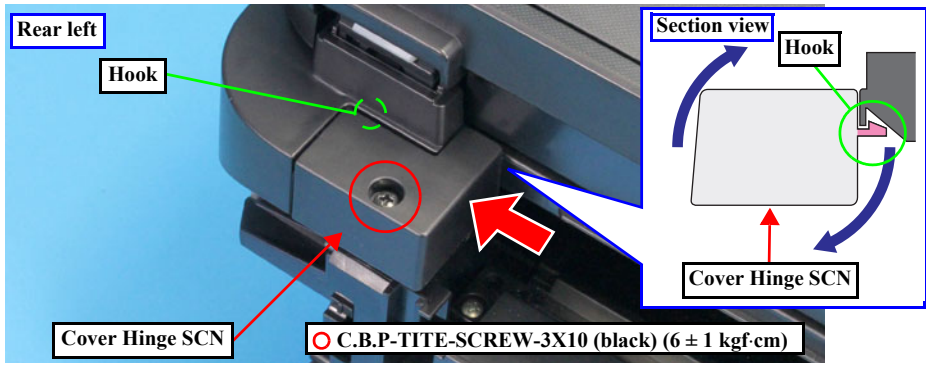


Figure 3-24. Removing the Cover Hinge SCN

CAUTION

Keep the ADF/SCN Unit or SCN Unit slightly open during the following steps.

8. Disconnect the ADF PE sensor cable from CN605 connector on the Main Board and release the cable from the two hooks on the Frame Base Assy. (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)
9. Disconnect the SCN FFC from the CN409 and CN410 connectors on the Main Board and peel the FFC off from the Frame Base Assy.

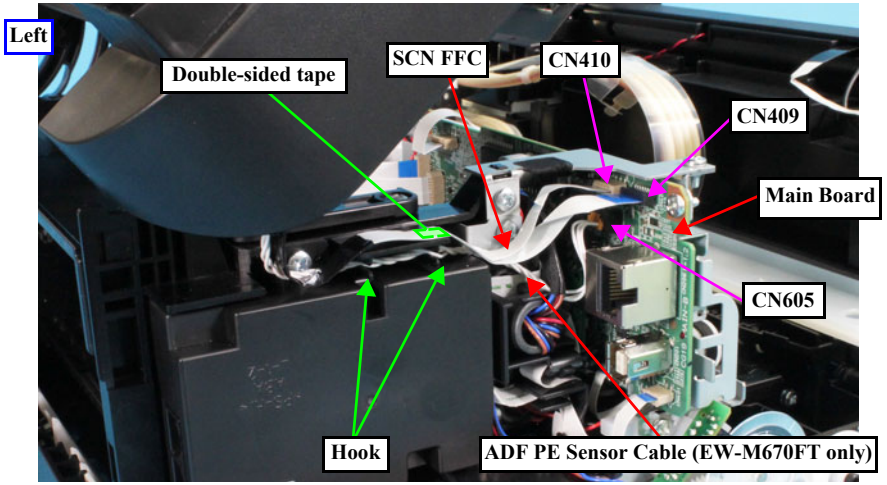


Figure 3-25. Releasing the SCN FFC

CAUTION

If you remove the screw without holding the SCN Unit in the next step, SCN Unit falls and it may damage the printer. Make sure to hold the SCN Unit with your hand while removing the screw.

10. Remove the two screws and remove the ADF/SCN Unit or the SCN Unit from the Rack Damper SC.
11. Slide the ADF/SCN Unit or the SCN Unit in the direction of the arrow and remove it from the two hinge shafts on the Frame Base Assy.

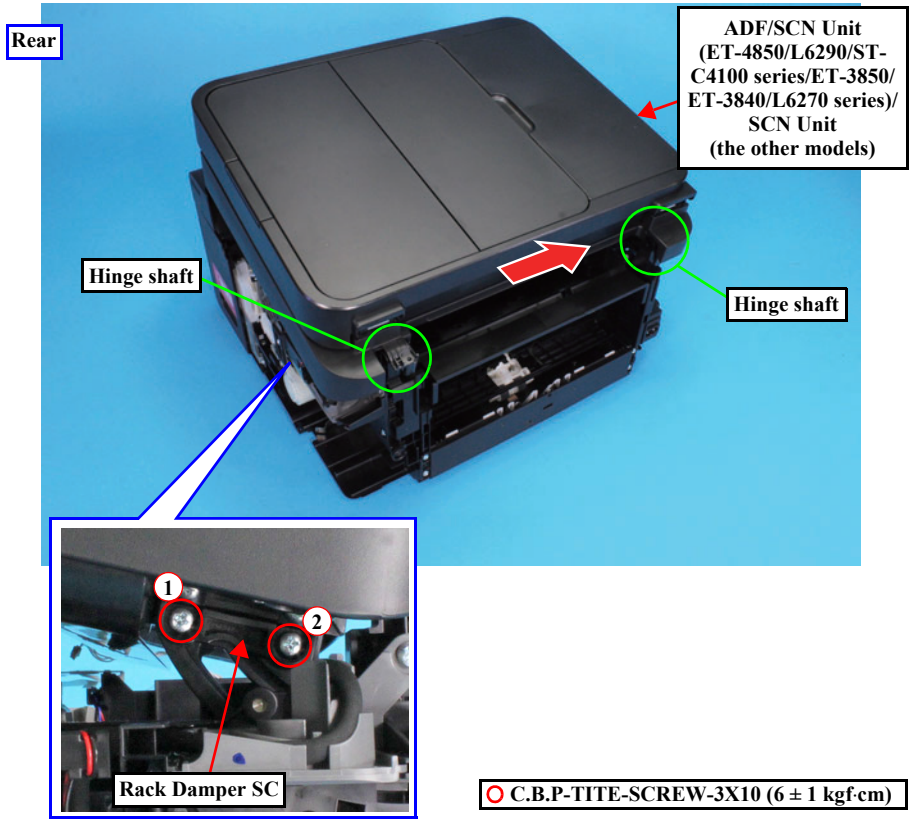
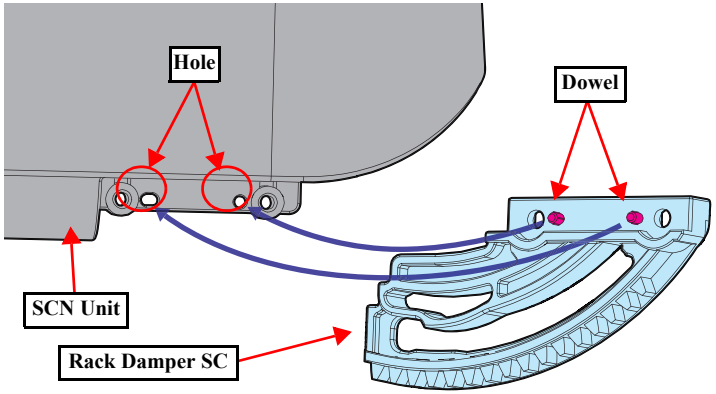


Figure 3-26. Removing the ADF/SCN Unit or the SCN Unit

ASSEMBLY

Screw the ADF/SCN Unit or the SCN Unit in the following procedure. (Figure 3-26)

1. **Insert the two dowels on the Rack Damper SC into the holes on the SCN Unit and close the SCN Unit.**



2. **Tighten the screw 1.**
3. **Slightly open the ADF/SCN Unit or the SCN Unit**
4. **Tighten the screw 2 while holding the ADF/SCN Unit or the SCN Unit with your hand.**

ASSEMBLY

Install the Document Mat by following the step below.

1. **Open the Scanner Cover(ET-3850/ET-3840/L6270 series/ ET-3800/ET-3830/L6260 series/ET-2850/L4260/ST-C2100 series)/ADF Unit(ET-4850/L6290/ST-C4100 series).**

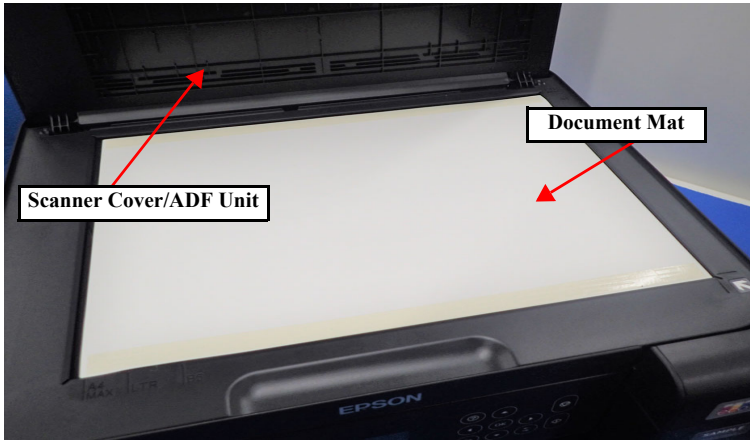


Figure 3-27. Assemble the Document Mat

2. **Put the Document Mat with double-sided tape facing up on Scanner.**
3. **Close the Scanner Cover(ET-3850/ET-3840/L6270 series/ ET-3800/ET-3830/L6260 series/ET-2850/L4260/ST-C2100 series)/ADF Unit(ET-4850/L6290/ST-C4100 series).**

3.3.4.4 Paper Guide Front Assy

CAUTION

Be careful not to damage the porous pad on the Paper Guide Front Assy.

1. On the Paper Guide Front Assy, peel the two portions of porous pad as shown in Figure 3-28.
2. Remove the two screws securing the Paper Guide Front Assy.

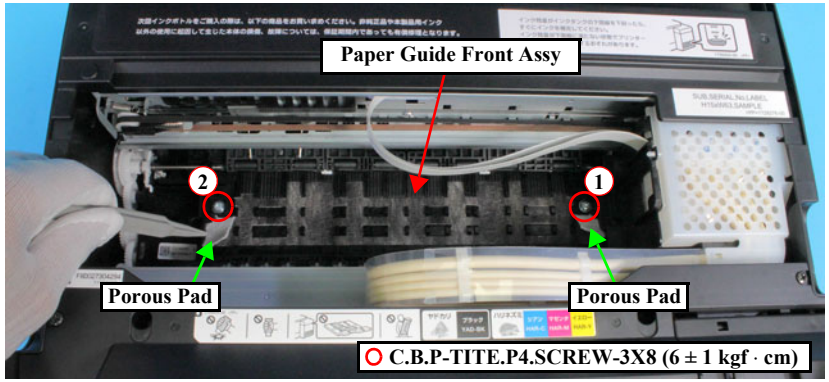


Figure 3-28. Removing the screw

ASSEMBLY

Screw in the order given in Figure 3-28

3. Slightly lift the Paper Guide Front Assy and remove it from the dowel on the Frame Base.
4. Slide the Paper Guide Front Assy toward the front side to release the interfering section A.
5. Release the interfering section B on the Paper Guide Front Assy while pushing the CR Unit slightly toward the 0 digit side and remove the Paper Guide Front Assy.

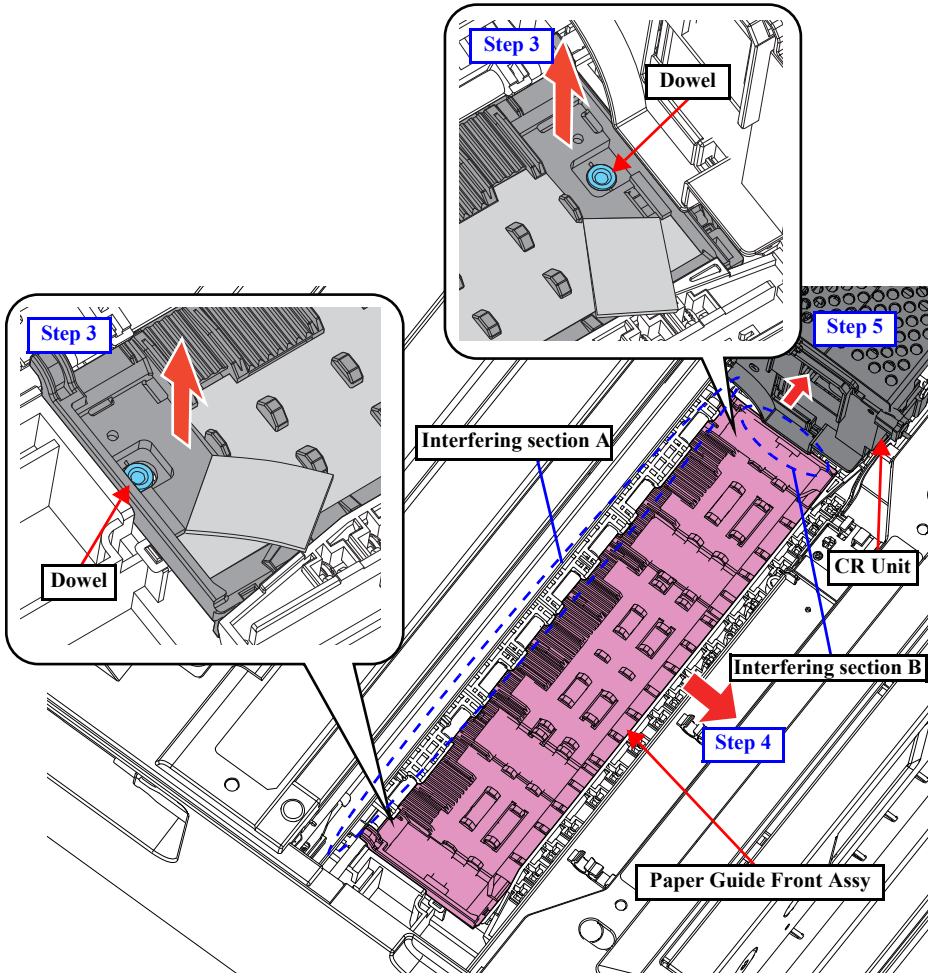


Figure 3-29. Removing the Paper Guide Front Assy

ASSEMBLY

Install the PG Spacer as shown below.

- **PG Spacer is a part attached to the left and right of the Paper Guide Lower Porous Pad, under the Paper Guide Front Assy, and the left and right PG can be adjusted using the PG Spacer.**
- **UP to two PG spacers can be installed.**
- **The thickness of the PG Spacer is 0.1mm, and it can handle PG adjustment up to 0.2mm.**

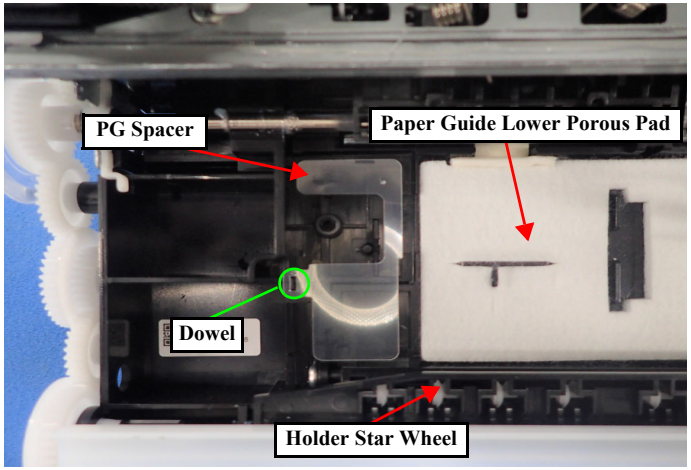


Figure 3-30. Installing the PG Spacer

3.3.4.5 Paper Guide Lower Porous Pad

1. Remove the Paper Guide Front Assy. (p115)
2. Remove the two Paper Guide Lower Porous Pads.

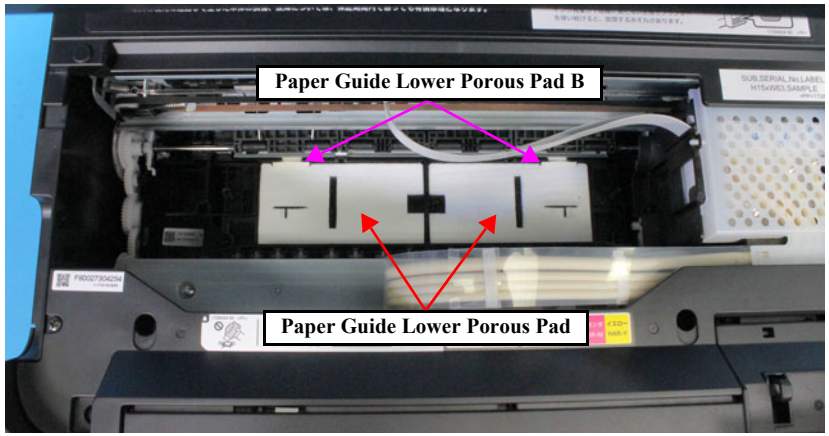


Figure 3-31. Removing the Paper Guide Lower Porous Pad

ASSEMBLY

When attaching the Paper Guide Lower Porous Pad, confirm the points below.

- **Paper Guide Lower Porous Pad is tightly fitted on the surface.**
- **The Paper Guide Lower Porous Pad is not on top of the Paper Guide Lower Porous Pad B.**

3.3.4.6 Print Head

1. Rotate the gear toward yourself to release the CR Lock.
2. Move the CR Unit to the point shown below.

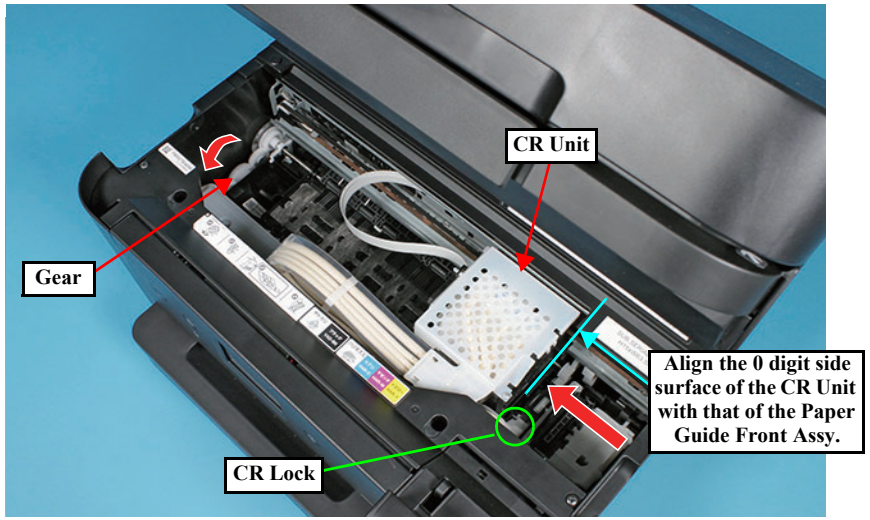


Figure 3-32. Releasing the CR Lock

CAUTION

To prevent effect to the PG and deformation of the Main Frame, be careful to the points below when disassembling/ reassembling the parts attached to the CR Unit.

- **Make sure to work with the CR Unit positioned as shown in Figure 3-32.**
- **Do not apply the strong force vertically.**

3. Remove the screw.
4. Release the two hooks and remove the CR Cover while pulling out the two pins from the holes on the CR Unit.

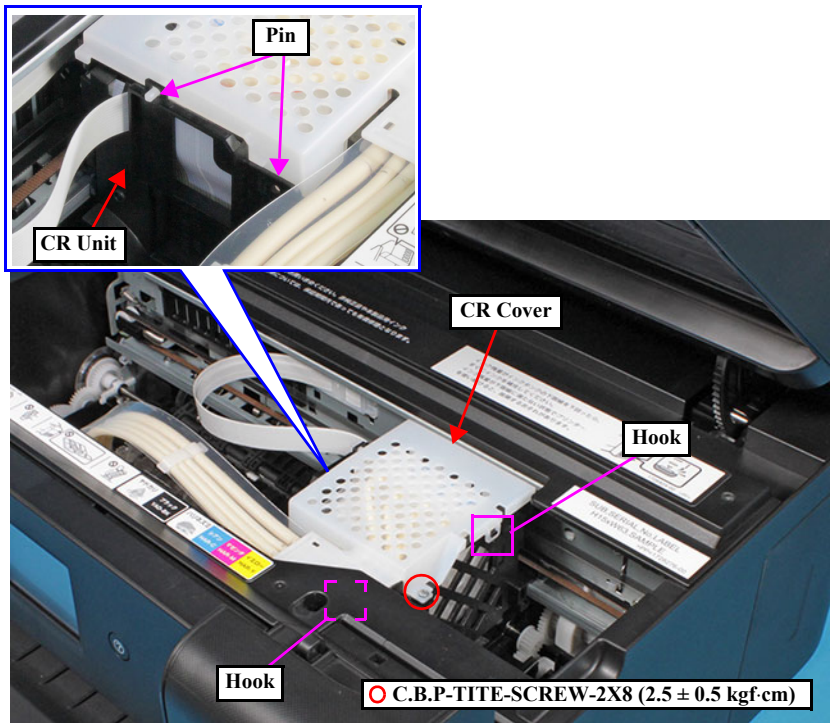


Figure 3-33. Removing the CR Cover

5. Release the Sheet Guide Tube from the three hooks.
6. Release the Adapter Tube from the groove on the CR Unit.
7. Release the four hooks and remove the adapter from the CR Unit.

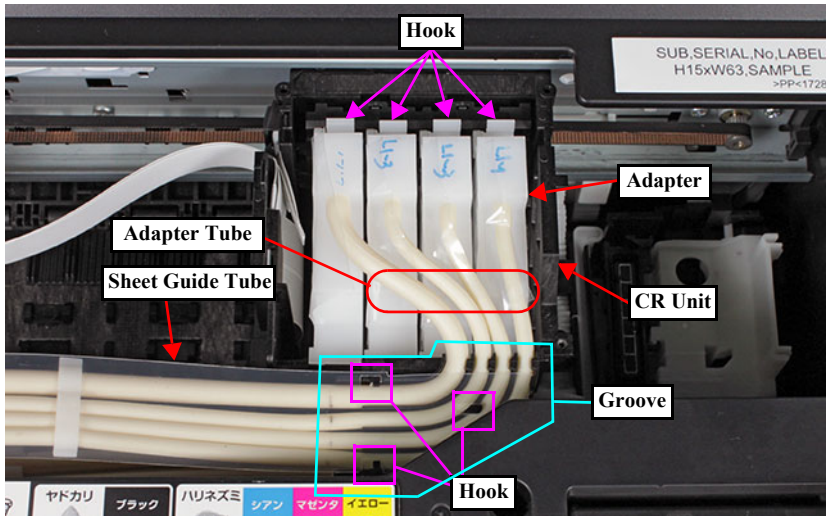


Figure 3-34. Removing the Adapter Tube

8. Release the two hooks on the Holder Board with a flathead screwdriver or the like and remove the Holder Board in the direction of the arrow.

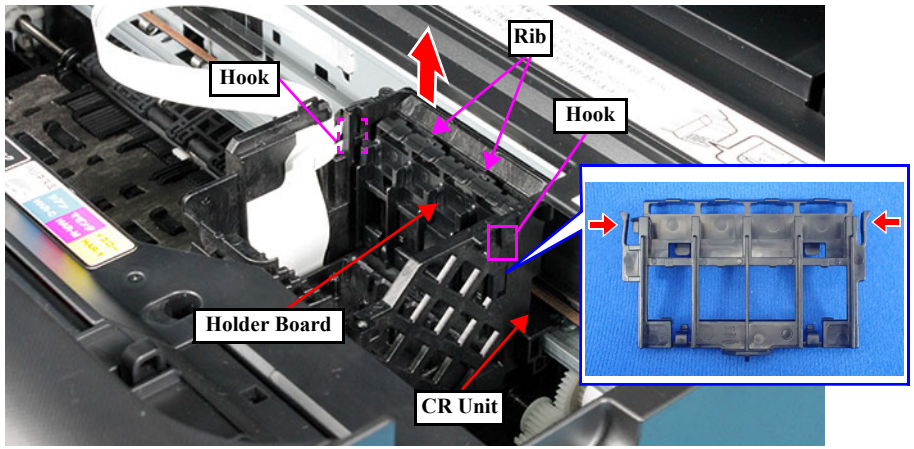


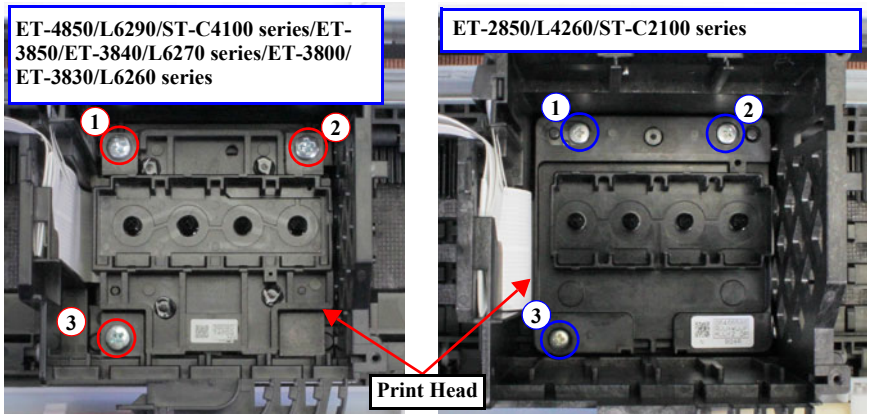
Figure 3-35. Removing the Holder Board

CAUTION

Observe the precautions below during the following procedure.

- **Do not touch the nozzle surface and the ink supply hole of the Print Head.**
- **When disassembling/assembling the Print Head, prepare a waste cloth or the like not to soil surroundings with ink.**

9. Remove the three screws and lift the Print Head.
10. Remove the Head FFC from the connector on the Print Head and remove the Print Head.



ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series: C.B.P-TITE SCREW,2.5X8 (5 ± 1 kgf·cm)
ET-2850/L4260/ST-C2100 series: C.B.P-TITE SCREW,3X10 (7 ± 1 kgf·cm)

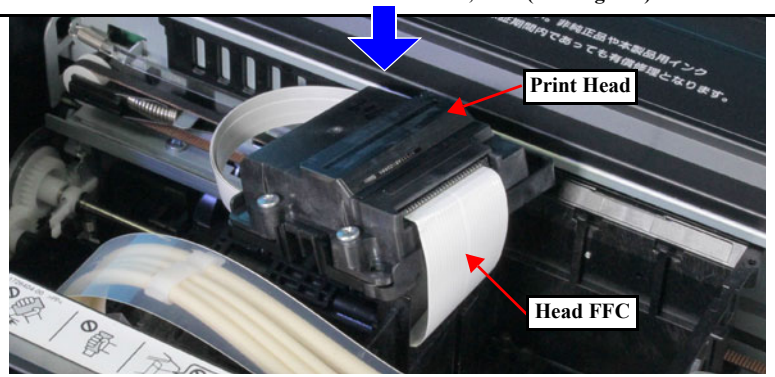
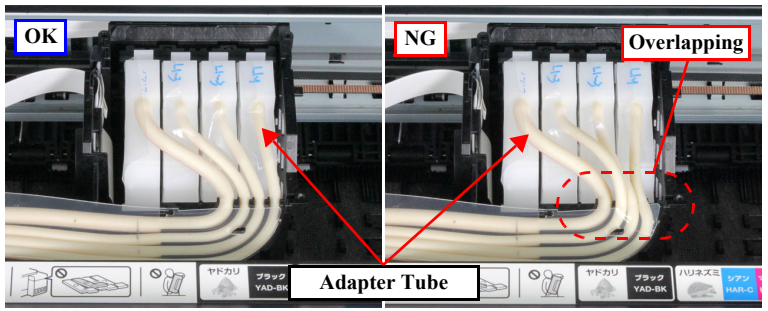


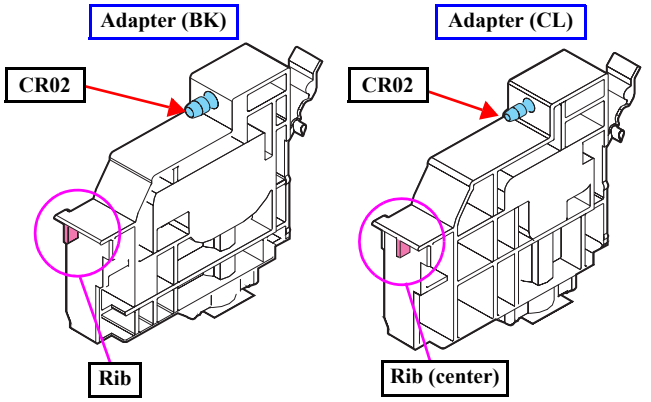
Figure 3-36. Removing the Print Head

ASSEMBLY

- **Secure the Print Head by screwing it in the order shown in Figure 3-36.**
- **Align the positioning holes on the Holder Board with the two ribs on the rear side of the CR Unit. (Figure 3-35)**
- **When attaching the CR Cover, make sure that the Adapter Tubes are not overlapping with each other.**

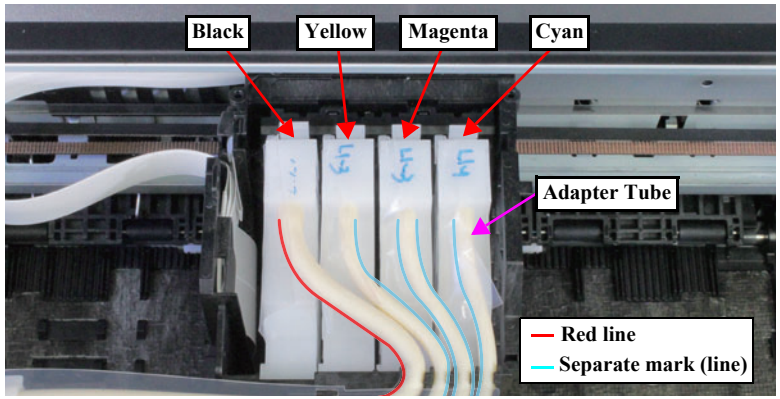


- **To make it easier to connect the Adapter Tube, apply CR02 to the edge of the tube.**
- **Distinguish the adapter (BK) and the adapter (CL) by confirming the position of the rib.**
  - **Adapter (BK): for black ink**
  - **Adapter (CL): for color ink**



ASSEMBLY

- **Red line is written on the tube for black ink (the tube is thicker than the one for the other colors) and lines made when separated the tip are on the tubes for color ink. When connecting the Adapter Tube to the adapter, direct each line in the correct direction referring to the figure below.**



- **Firmly connect the Adapter Tube to the adapter. (A gap should be 0.5 mm or less)**
- **Make sure to secure the adapter with the hook.**

3.3.4.7 Main Board

1. Remove the Housing Upper Front. (p107)
2. Remove the Maintenance Box. (p106)
3. Remove the Housing Right. (p107)
4. Remove the Housing Left. (p108)
5. Remove the Housing Upper Rear. (p108)
6. Remove the ADF/SCN Unit or the SCN Unit. (p112)
7. Remove the Main Frame Support.
8. Disconnect all cables/FFCs from the Main Board.
9. Remove the three screws and the washer, and remove the Main Board in the direction of the arrow.

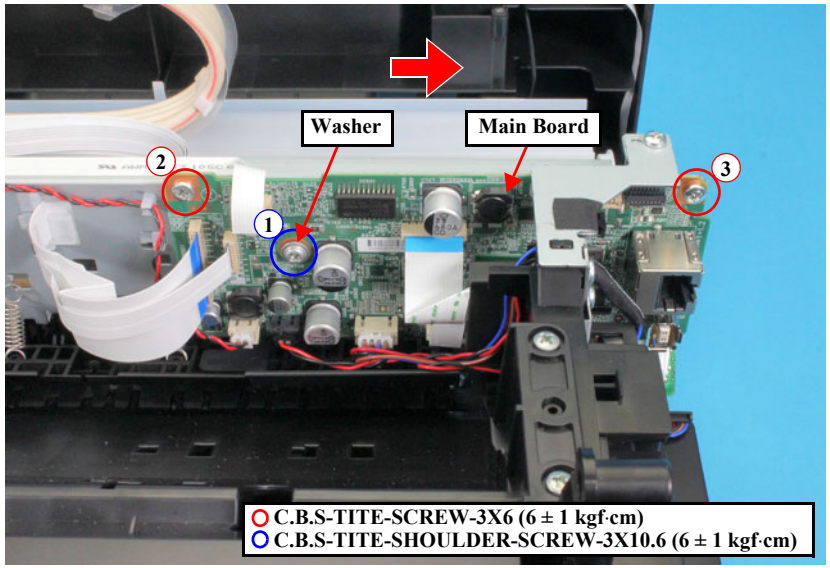
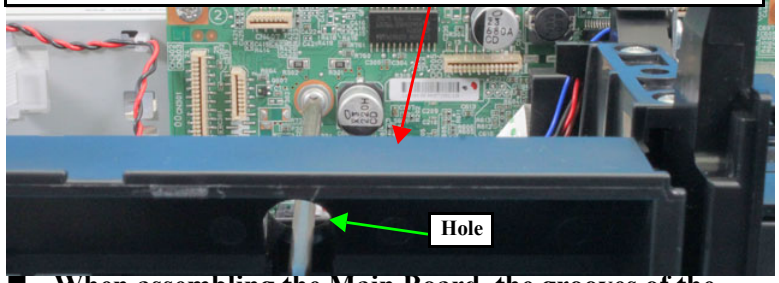


Figure 3-37. Removing the Main Board

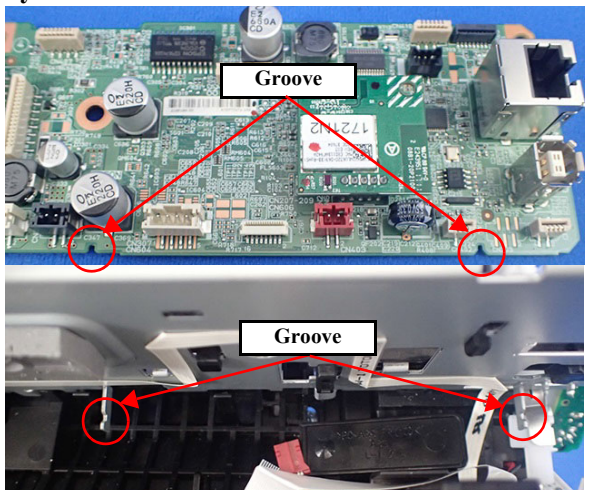
ASSEMBLY

- Screw in the order shown in Figure 3-37.
- When tightening the screw 1, insert the screwdriver through the hole on the Paper Guide Dup Front/Frame ASF Rear Assy.

Paper Guide Dup Front (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series) / Frame ASF Rear Assy (ET-2850/L4260/ST-C2100 series)



- When assembling the Main Board, the grooves of the Main Board are aligned to the grooves of the Main Frame Assy.

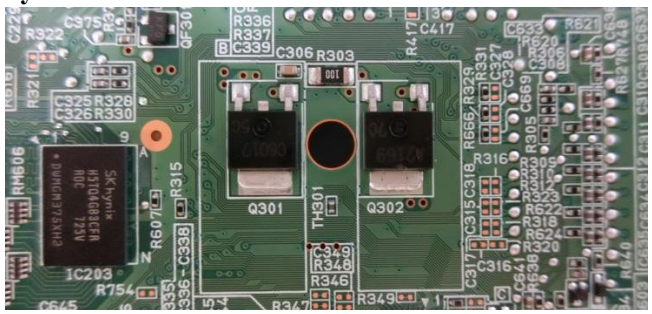


CAUTION

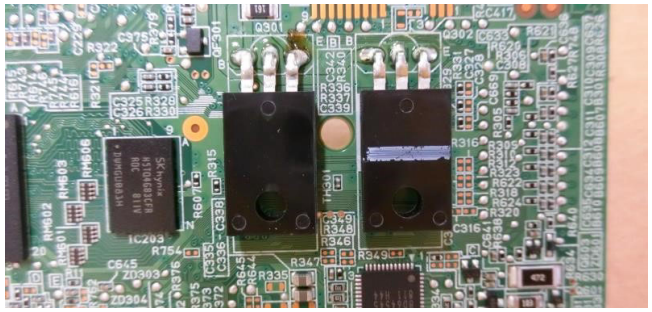
The the Main Board have a difference depending on selling period. Depends on back shape of the Main Board, it is necessary to attach Heat Conduction Sheet.

- Necessary to attach Heat Conduction sheet

When assembling the Main Board, see " Heat Conduction Sheet *(p132)*" and attach the Heat Conduction Sheet correctly.



- Not necessary to attach Conduction sheet



3.3.4.8 Ink Tank

1. Remove the Housing Upper Front. (p107)
2. Remove the Maintenance Box. (p106)
3. Remove the Housing Right. (p107)
4. Remove the Housing Front. (p108)
5. Remove the Cover Tank. (p111)
6. Remove the four screws and remove the Key Slot Assy.

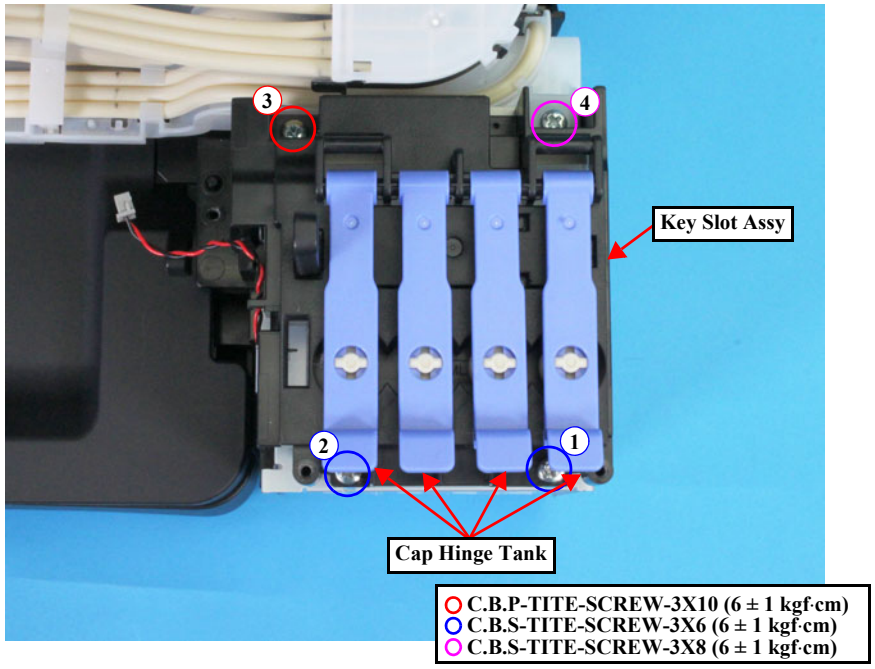


Figure 3-38. Removing the Key Slot Assy

7. Remove the Screw.
8. Release the two hooks and remove the Base Right Support.
9. Remove the Tank Upper Porous Pad.

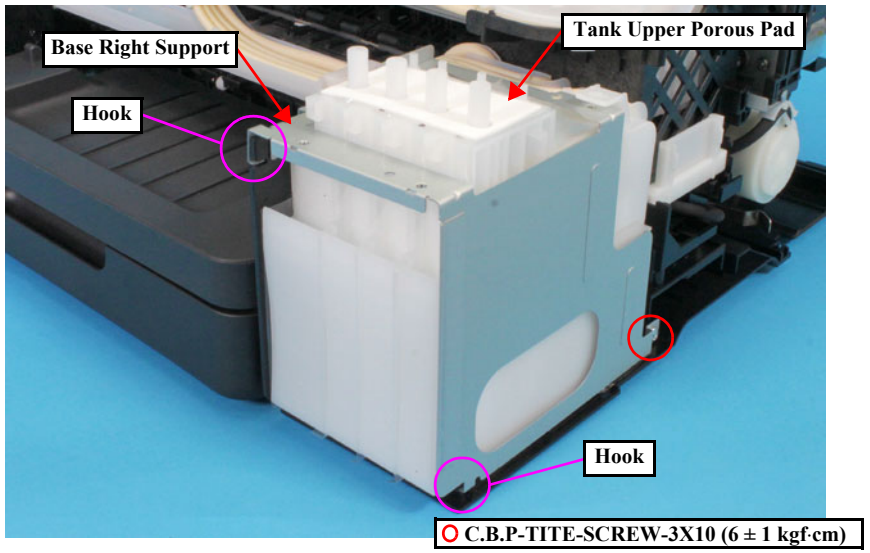
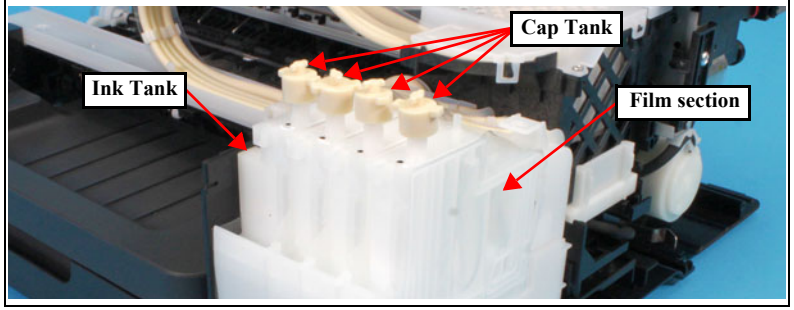


Figure 3-39. Removing the Base Right Support/Tank Upper Porous Pad

CAUTION

Observe the precautions below during the following procedure.

- **When disassembling/assembling the Ink Tank, prepare a waste cloth or the like not to soil surroundings with ink.**
- **Do not hold the film section of the Ink Tank.**
- **To prevent ink leakage, replace the Cap Tank from the Cap Hinge Tank on the Key Slot Assy (Figure 3-38) to the ink supply hole of the Ink Tank.**



10. Release the CR Lock and move the CR Unit to the center. (Figure 3-32)
11. Remove the Pressing Plate Tube and release the Adapter Tube from the Guide Tube Supply Ink.

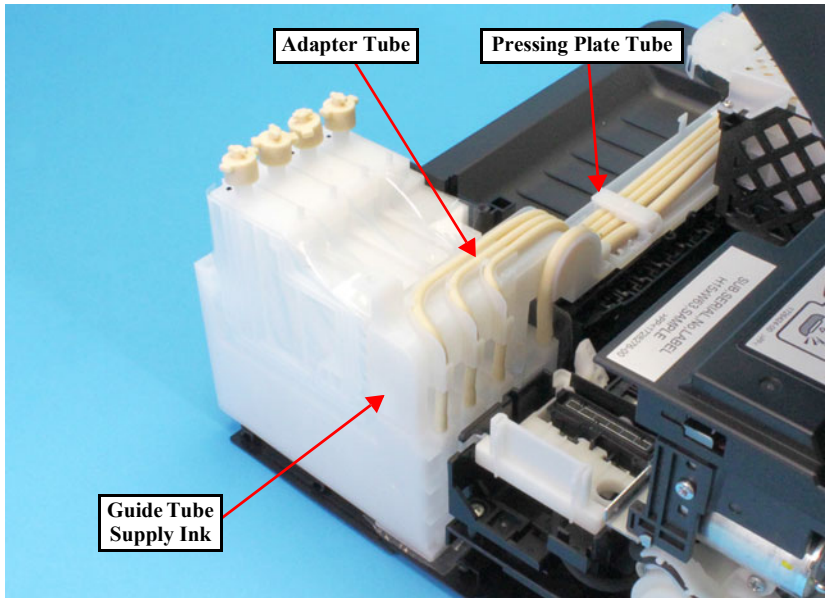


Figure 3-40. Releasing the Adapter Tube

12. Remove the screw that securing each of the Ink Tanks.
13. Slide the Ink Tank backward to release the hook on the bottom and remove it from the Frame Base Assy.

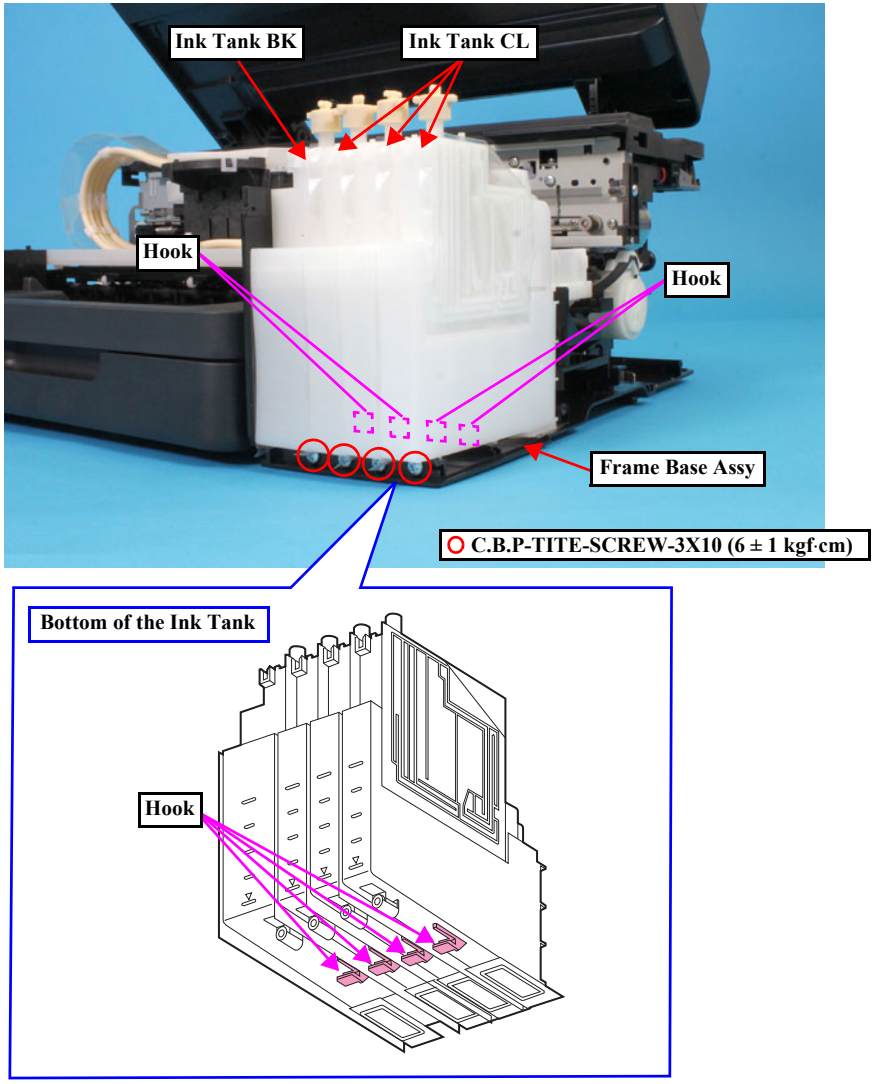


Figure 3-41. Removing the Ink Tank

14. Remove the Adapter Tube from the Ink Tank.

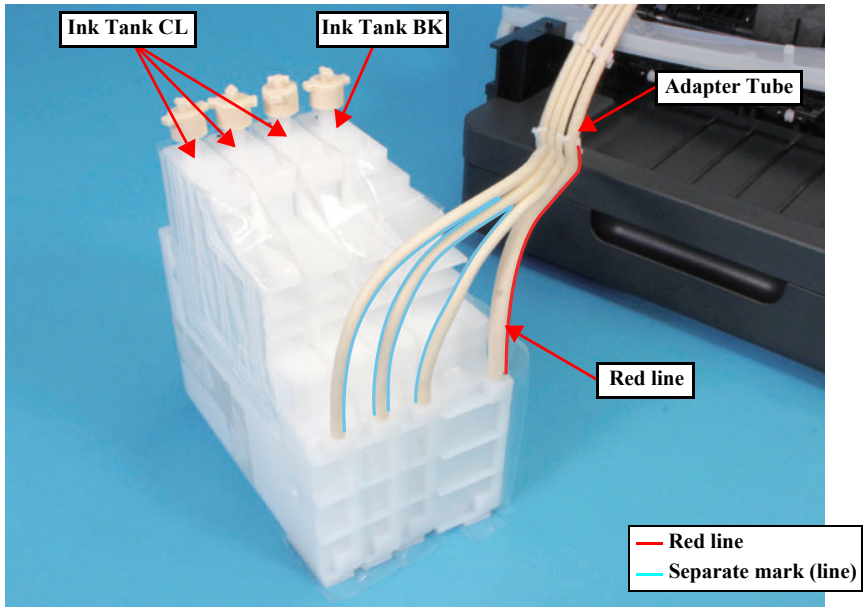


Figure 3-42. Removing the Adapter Tube

ASSEMBLY

- **Red line is written on the tube for black ink (the tube is thicker than the one for the other colors) and lines made when separated the tip are on the tubes for color ink. When connecting the Adapter Tube to the adapter, direct each line in the correct direction referring to Figure 3-42.**
- **Firmly connect the Adapter Tube to the adapter. (A gap should be 0.5 mm or less)**
- **Attach the Ink Tank BK (Black) on the 80 digit side.**
- **Make sure to secure the adapter to the Frame Base Assy with the hook.**
- **When attaching the Key Slot Assy, screw in the order shown in Figure 3-38.**

3.3.4.9 Paper Guide Upper Left

1. Remove the Housing Upper Front. (p.107)
2. Remove the Maintenance Box. (p.106)
3. Remove the Housing Right. (p.107)
4. Remove the Housing Left. (p.108)
5. Remove the Housing Upper Rear. (p.108)
6. Remove the ADF/SCN Unit or the SCN Unit. (p.112)
7. Remove the Main Board. (p.120)

CHECK

Step 8 to Step 12 (p.126) are for ET-2850/L4260/ST-C2100 series only.

For other models, go to Step 13 (p.127).

8. Remove the Paper Set Detection Sensor FFC from the connector on the Paper Set Detection Sensor Board, peel off the double-sided tape and release the FFC.
9. Remove the screw securing the Paper Set Detection Sensor Assy.
10. Slide the Paper Set Detection Sensor Assy in the direction of the arrow while pressing the tab and remove it.

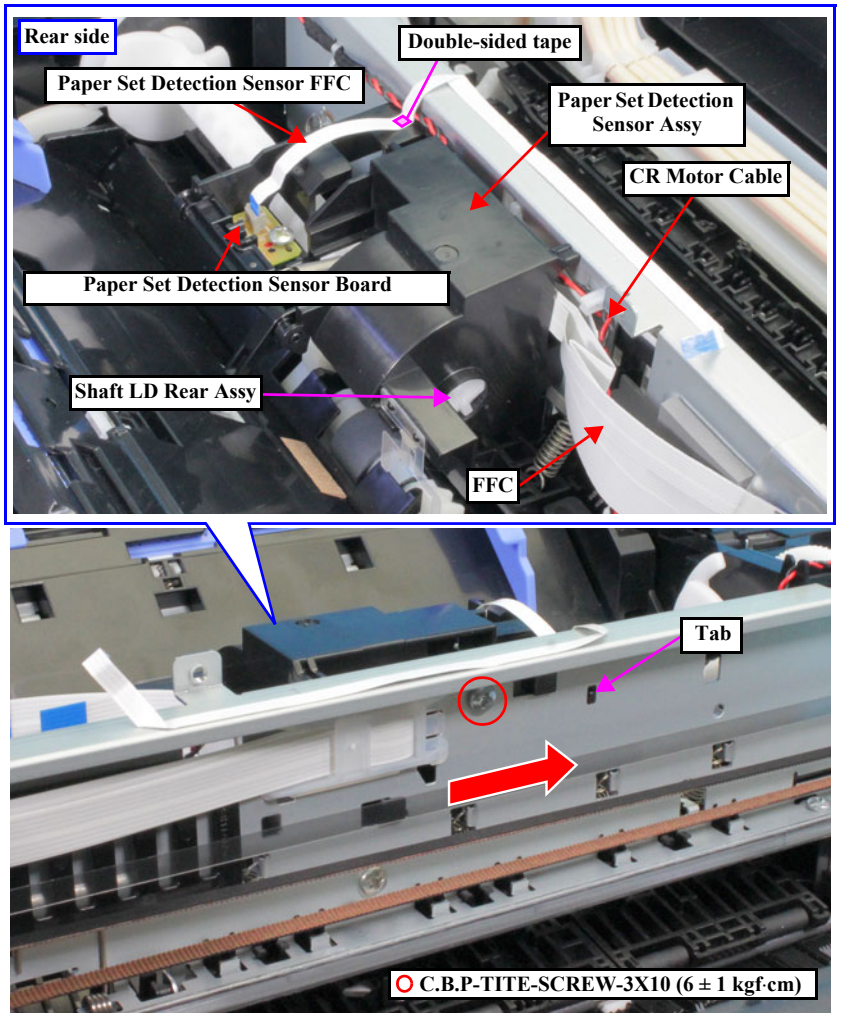


Figure 3-43. Removing the Paper Set Detection Sensor Assy

11. Pull out the Shaft LD Rear Assy in the direction of the arrow while releasing its two hooks.

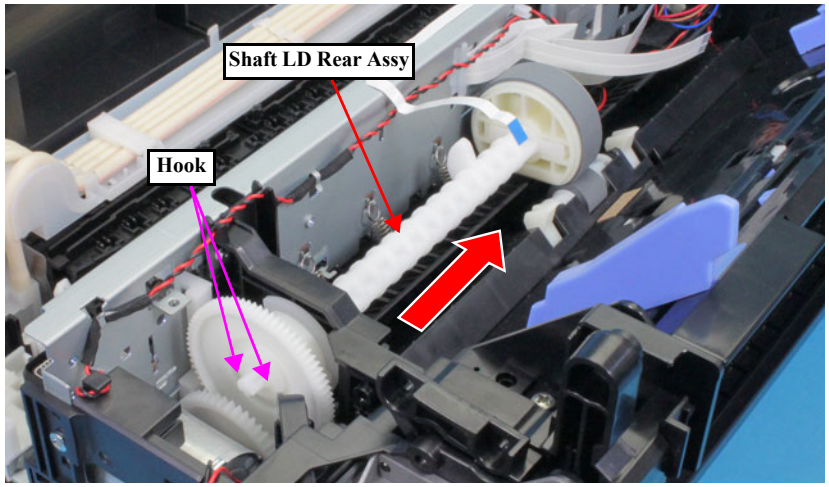


Figure 3-44. Removing the Shaft LD Rear Assy

CAUTION

- **In the next step, be careful not to lose the Extension Spring 0.137 since it may come off from the Holder Clutch Assy.**
- **When attaching the Extension Spring 0.173 to the Holder Clutch Assy, make sure the spring is attached as shown below.**

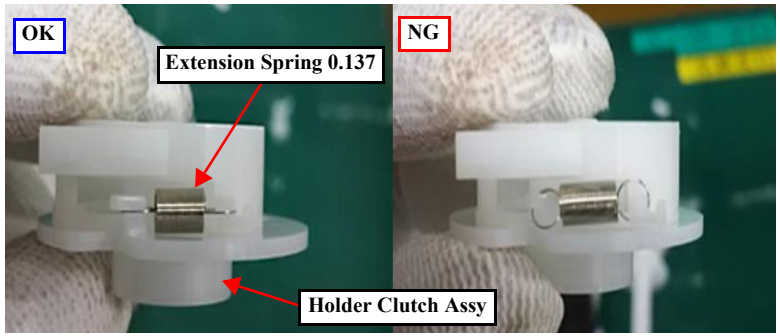


Figure 3-45. Spring of the Holder Clutch Assy

12. Remove the Holder Clutch Assy from the Frame Base Assy.

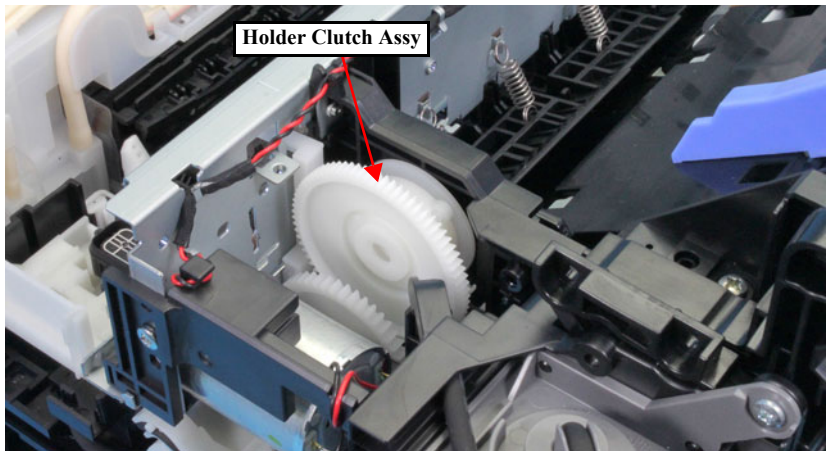


Figure 3-46. Removing the Holder Clutch Assy

CHECK

In the next step, parts may differ by the model but disassembling procedure is the same.

13. Remove the four screws and remove the Paper Guide Dup Front or the Frame ASF Rear Assy.

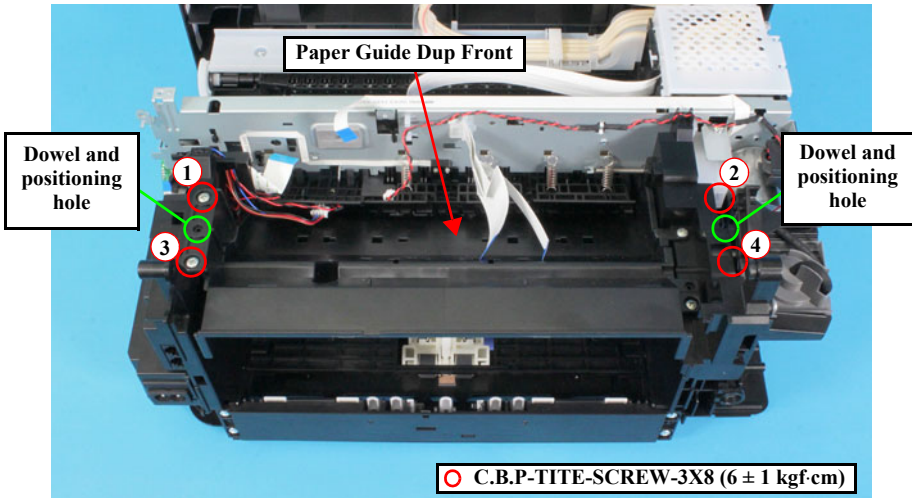


Figure 3-47. Removing the Paper Guide Dup Front (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

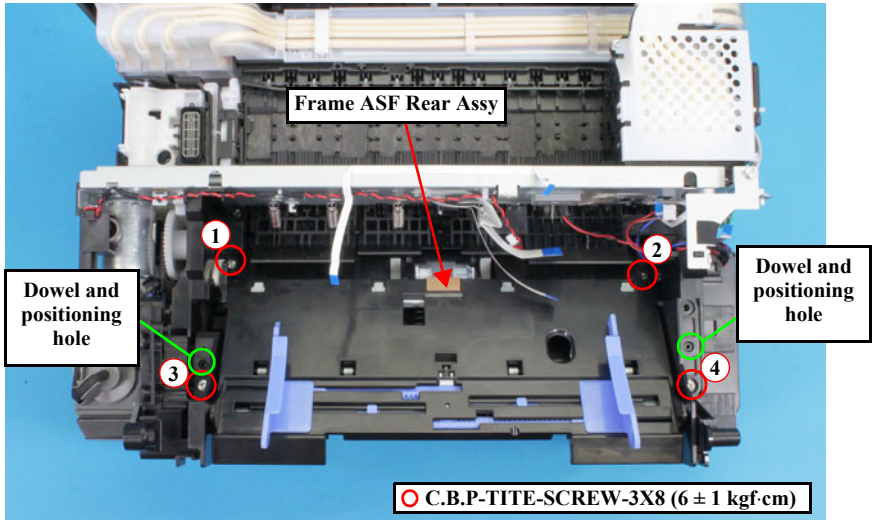


Figure 3-48. Removing the Frame ASF Rear Assy (ET-2850/L4260/ST-C2100 series)

14. Remove the two Paper Guide Upper Left Springs.
15. Release the two dowels on the Paper Guide Upper Left from the holes on the Main Frame and remove the Paper Guide Upper Left to the rear side.

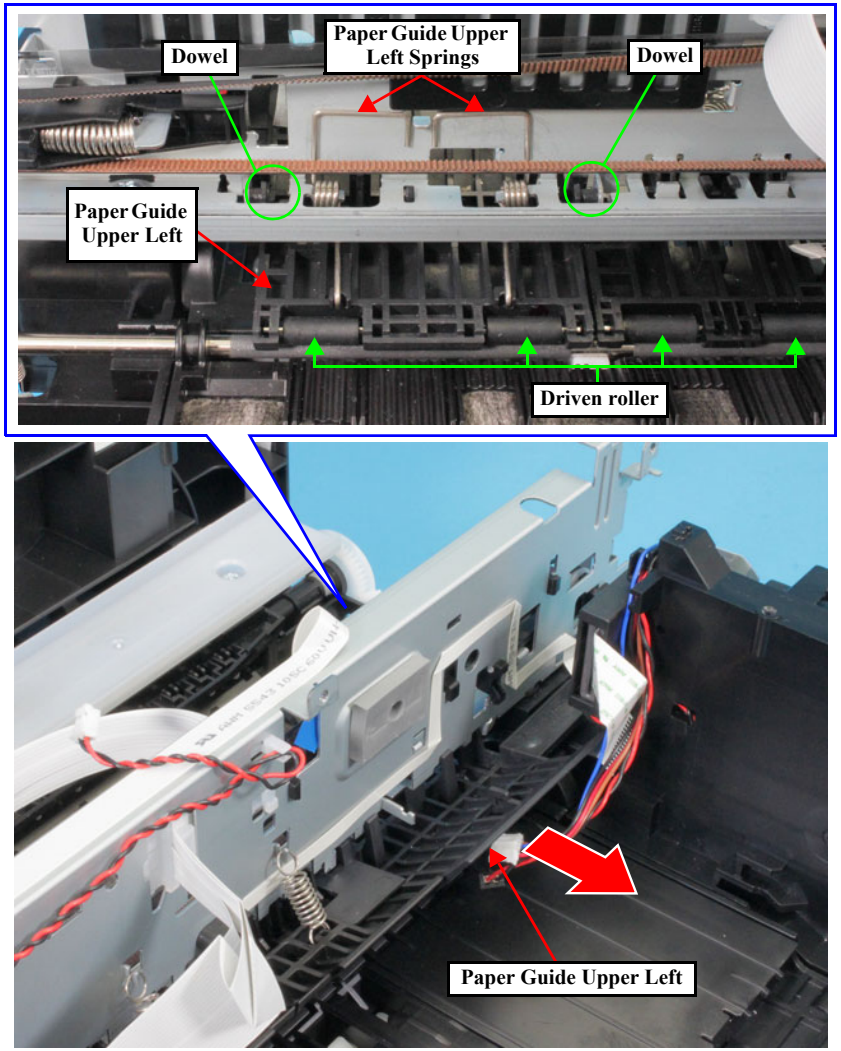
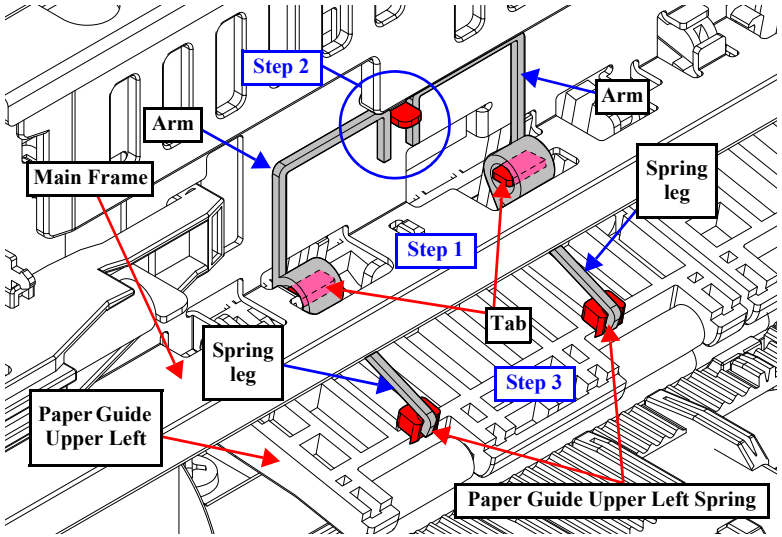


Figure 3-49. Removing the Paper Guide Upper Left

ASSEMBLY

- Be careful not to let the driven roller on the Paper Guide Upper Left fall off. (Figure 3-49)
- Attach the Paper Guide Upper Left Spring in the order given below.

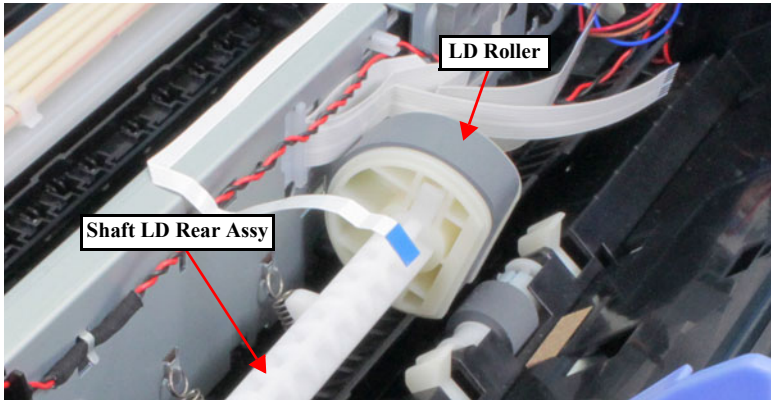
1. Attach the coiled section of the Paper Guide Upper Left Spring to the tab.
2. Secure the arms of the spring with the rib on the Main Frame.
3. Set the legs of the spring in the hole on the Paper Guide Upper Left.



- Insert the two positioning holes on the Paper Guide Dup Front or the Cover Rear ASF Assy over the dowels on the Frame Base Assy. (Figure 3-48)
- Screw in the order given in Figure 3-47 and Figure 3-48.

ASSEMBLY

- For ET-2850/L4260/ST-C2100 series, observe the following precautions.
  - Attach the Shaft LD Rear Assy with the spring on the Holder Clutch Assy facing to the bottom. (Figure 3-45)
  - Attach the LD Roller with its flat surface facing to the rear side.



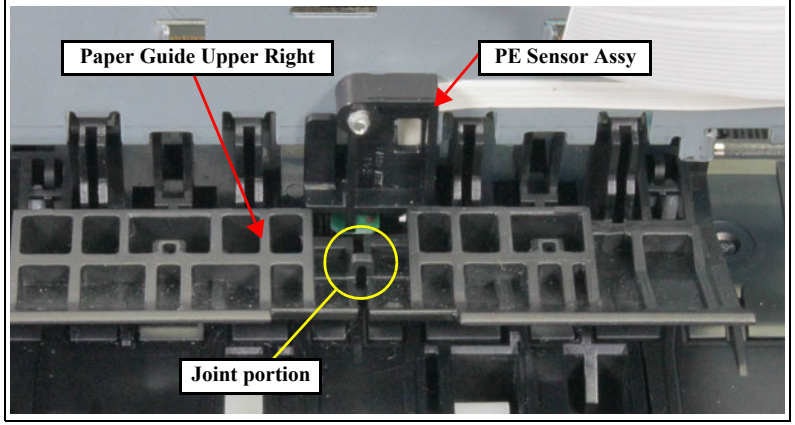
  - Set the Shaft LD Rear Assy to the shaft hole on the Paper Set Detection Sensor Assy. (Figure 3-43)
  - When attaching the Paper Set Detection Sensor Assy, be careful not to let the CR motor cable and FFCs get caught between parts. (Figure 3-43)

3.3.4.10 Paper Guide Upper Right

1. Remove the Housing Upper Front. (p.107)
2. Remove the Maintenance Box. (p.106)
3. Remove the Housing Right. (p.107)
4. Remove the Housing Left. (p.108)
5. Remove the Housing Upper Rear. (p.108)
6. Remove the ADF/SCN Unit or the SCN Unit. (p.112)
7. Remove the Main Board. (p.120)
8. Remove the Paper Guide Upper Left. (p.125)
9. Remove the four Paper Guide Upper Right Springs from the Main Frame.

CAUTION

In the next step, be careful not to damage the joint portion of the Paper Guide Upper Right.



10. Release the three hooks and remove the Paper Guide Upper Right toward the rear side avoiding contact with the PE Sensor Assy.

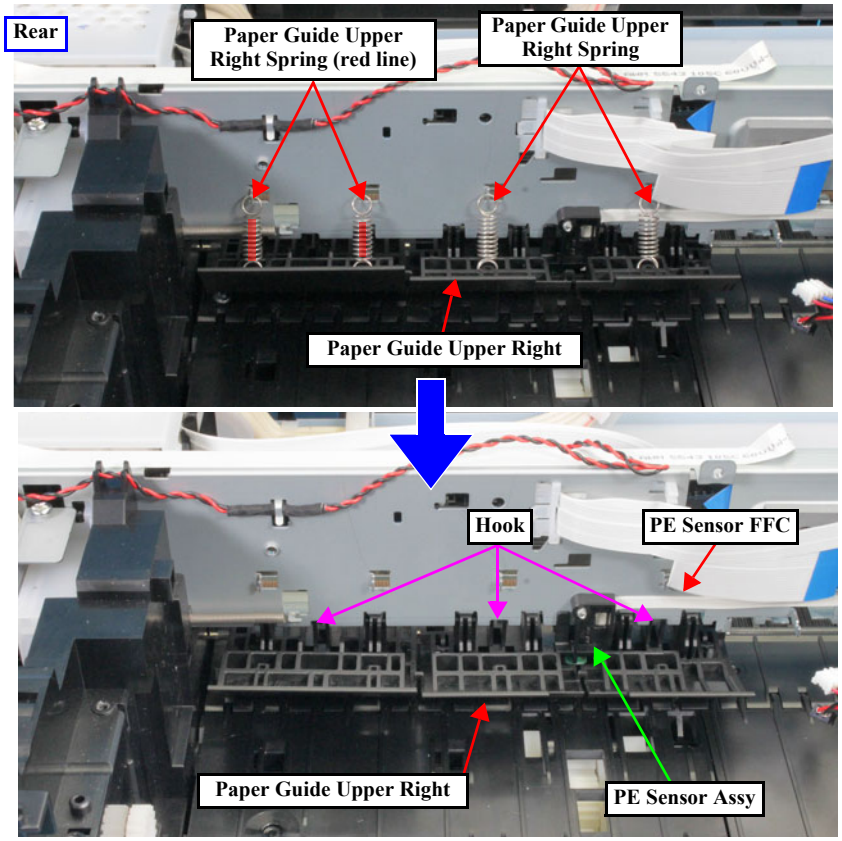
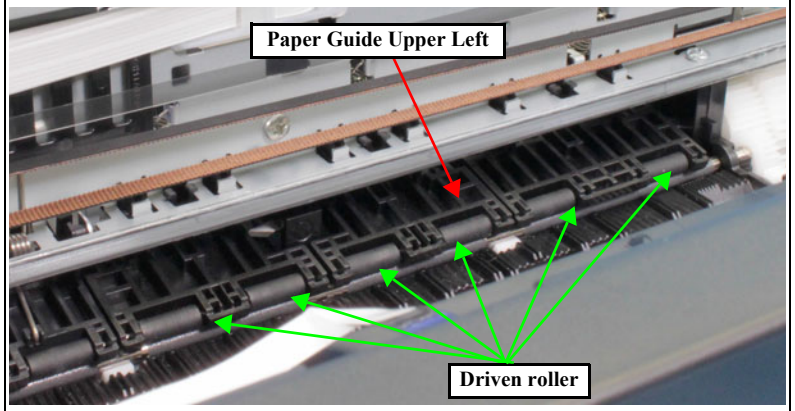


Figure 3-50. Removing the Paper Guide Upper Right

ASSEMBLY

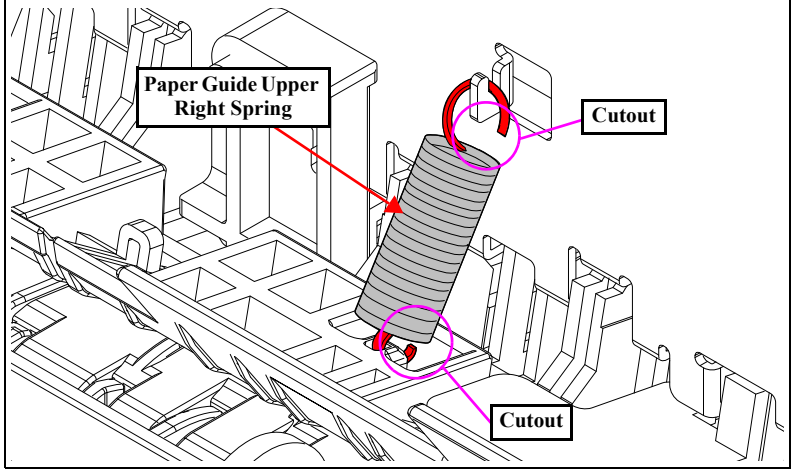
■ **Be careful not to let the driven rollers on the Paper Guide Upper Right fall off.**



■ **Be careful not to let the PE Sensor FFC get caught between parts.**

■ **Confirm the points below when attaching the Paper Guide Upper Right Spring**

- ■ **Attach the two Paper Guide Upper Right Springs with red line to the 0 digit side. (Figure 3-50)**
- ■ **Attach the both ends of the springs with the cutout portion facing to the direction given below.**
  - • **Upper side: 80 digit side**
  - • **Lower side: front side**

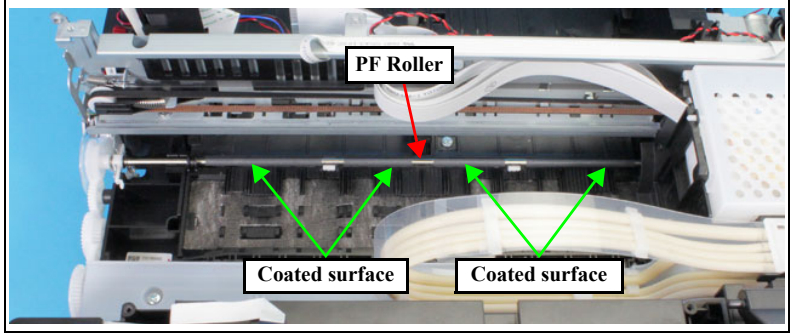


3.3.4.11 PF Roller

1. Remove the Housing Upper Front. (p107)
2. Remove the Maintenance Box. (p106)
3. Remove the Housing Right. (p107)
4. Remove the Housing Left. (p108)
5. Remove the Housing Upper Rear. (p108)
6. Remove the ADF/SCN Unit or the SCN Unit. (p112)
7. Remove the Main Board. (p120)
8. Remove the Paper Guide Upper Left. (p125)
9. Remove the Paper Guide Upper Right. (p129)
10. Remove the Paper Guide Front Assy. (p115)

CAUTION

Be careful not to touch the coated surface of the PF Roller during the following steps.



11. Remove the PF Roller Grounding Spring.
12. Remove the screw and remove the PF Encoder.
13. Release the two dowels and rotate the bush in the direction of the arrow.

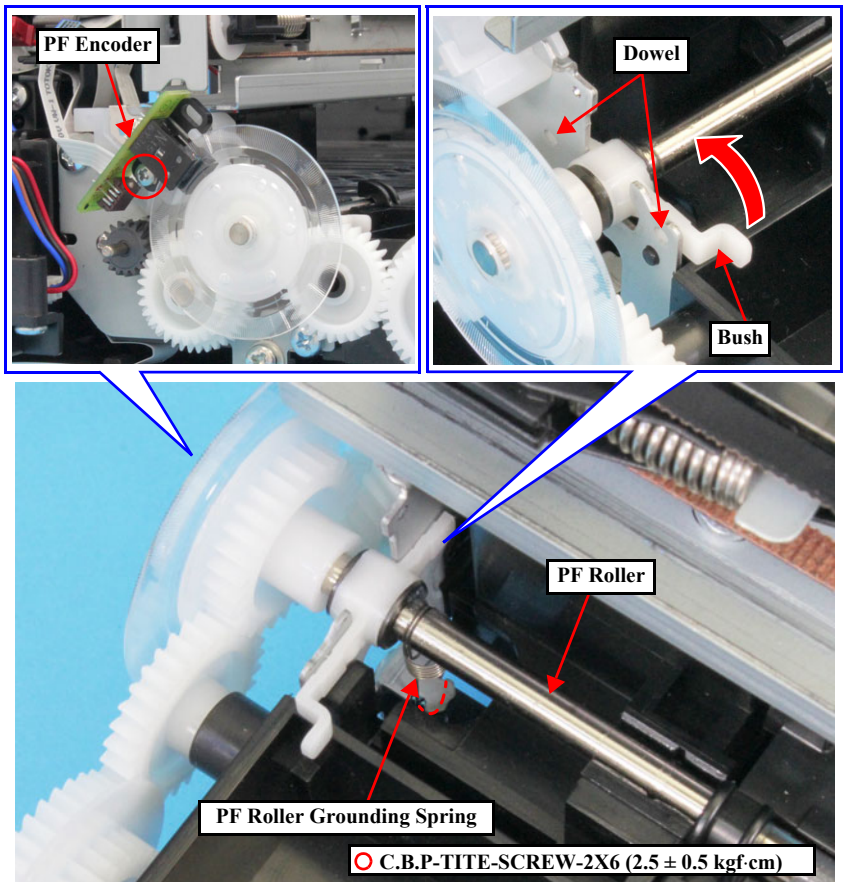


Figure 3-51. Removing the PF Roller

14. Slightly lift the PF Scale side of the PF Roller and remove the PF Roller from the four bushes on the Frame Base Assy.

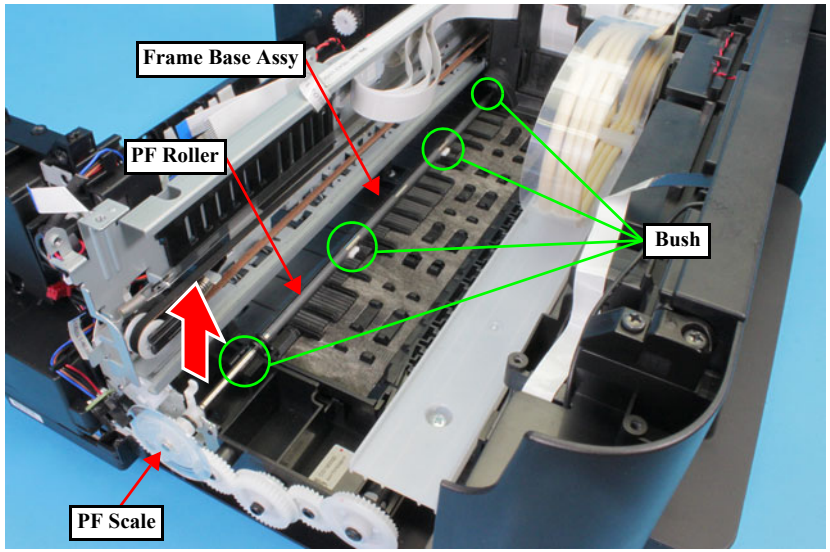
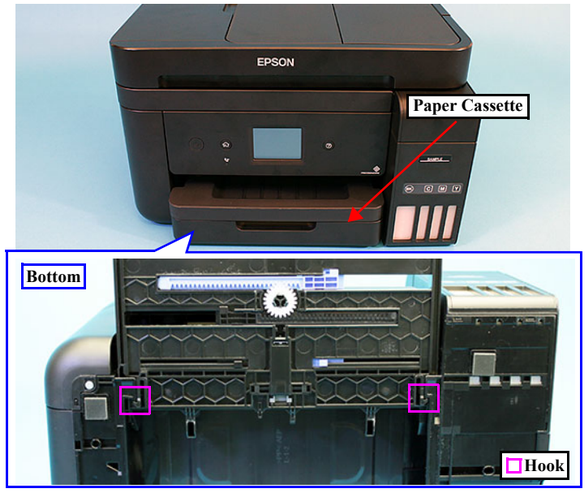


Figure 3-52. Removing the PF Roller

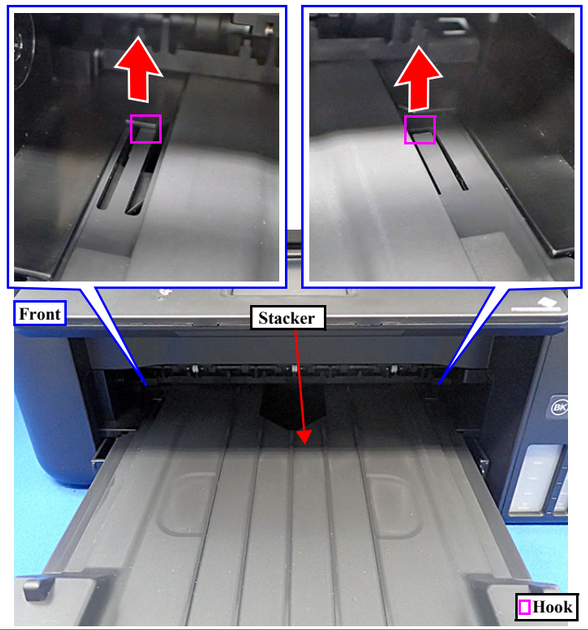
3.4 Detailed Disassembly/Reassembly Procedure for each Part/Unit

Paper Cassette (Except for ET-2850/L4260/ST-C2100 series)



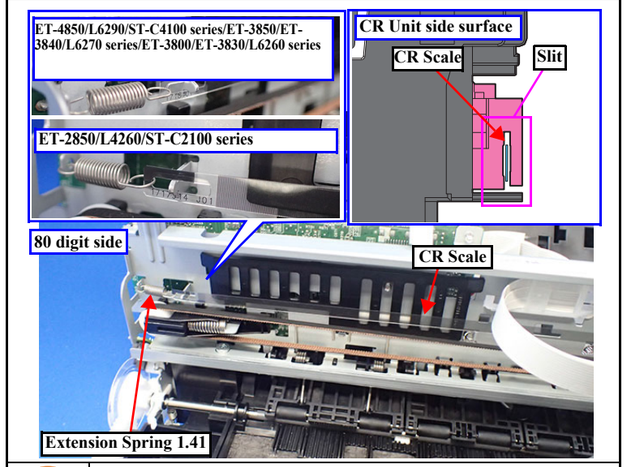
CAUTION	Even if you need to access the bottom side of printer, avoid tilting printer as far as possible because ink may leak. If tilting printer is necessary for your work, complete the work in the short time without tilting printer many times.
TOOL	When removing Paper Cassette, release the two hooks on the bottom of the printer.

Stacker



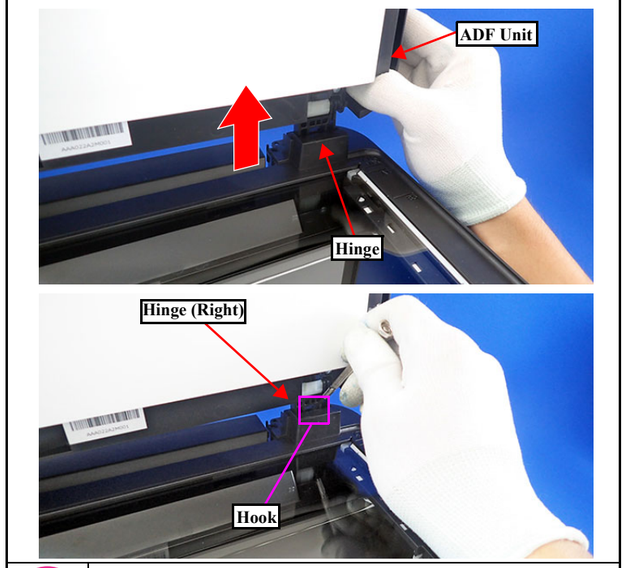
TOOL	When removing Stacker, pull it out to the front side of the printer and release two hooks shown above.

CR Scale & Spring



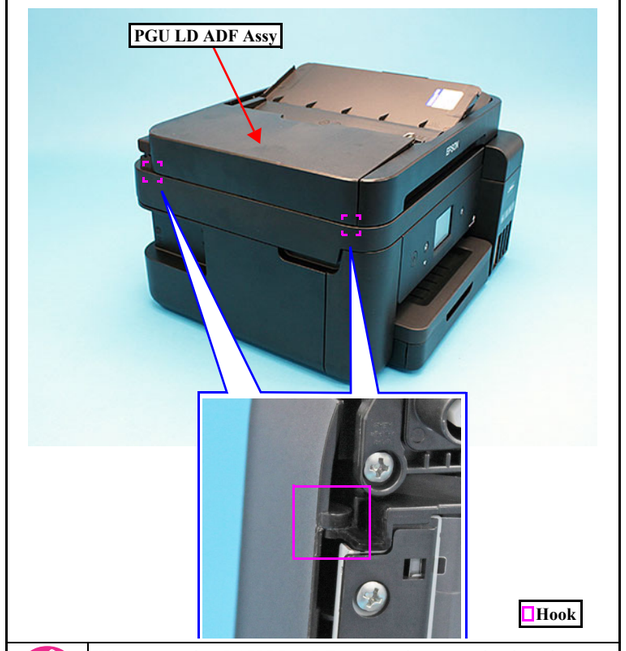
CHECK	Shape of the black section of CR Scale differs by the model.
ASSEMBLY	■ Attach CR Scale with its black section facing to the upside of 80 digit side and insert it through slit on CR Encoder Sensor. ■ Hook the longer leg of Extension Spring 1.41 to CR Scale and the other leg to the Main Frame. ■ After attaching CR Scale, move CR Unit by pressing its side to confirm that the scale does not contact with FFC or other components.

ADF Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)



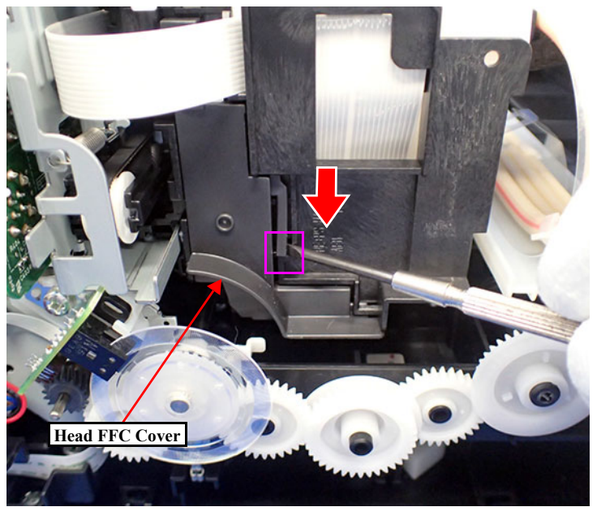
TOOL	Remove ADF Unit in the procedure given below 1. Lift ADF Unit slightly and pull out hinge. 2. Release hinge on the right side using flathead screwdriver or the like and remove ADF Unit.

PGU LD ADF Assy (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)



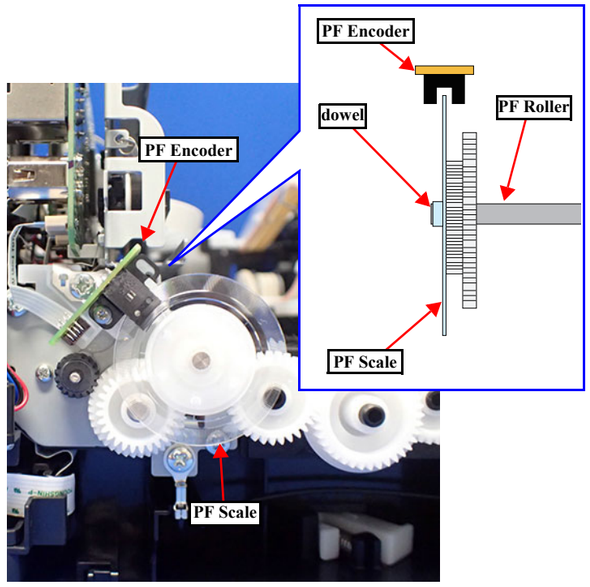
TOOL	When removing PGU LD ADF Assy, release two hooks. Since hooks are sensitive, be careful not to damage them.

Cover Cable Head



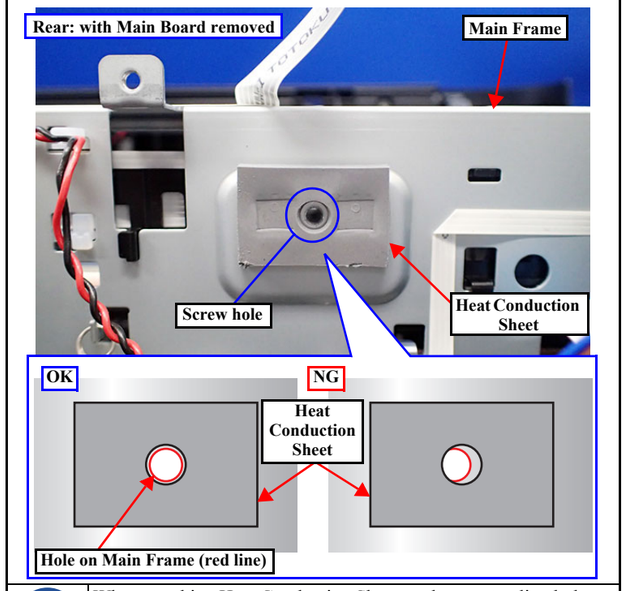
TOOL	While releasing hook, slide down Cover Cable Head and remove it.

PF Encoder/PF Scale



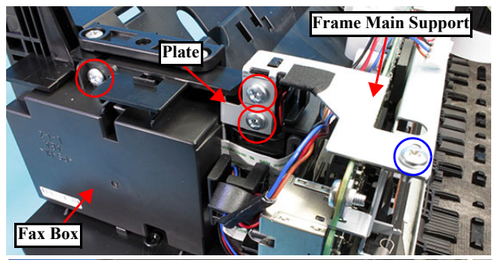
ASSEMBLY	■ Attach PF Scale with its dowel facing outward. ■ After attaching PF Encoder, confirm that PF Scale and PF Encoder is not touching each other.

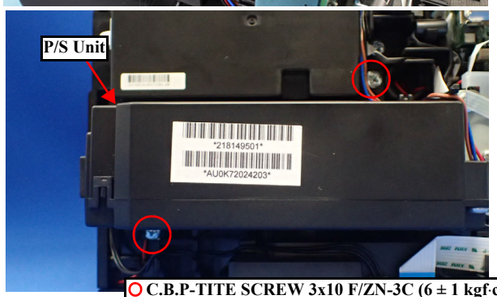
Heat Conduction Sheet



ASSEMBLY	When attaching Heat Conduction Sheet, make sure to align hole on Heat Conduction Sheet with screw hole on Main Frame. If not, screw or screwdriver will scratch the Heat Conduction Sheet and cause chips of the sheet to drop inside the printer. This may result in degradation of print quality.

P/S Unit/Fax Box (ET-4850/L6290/ST-C4100 series only)



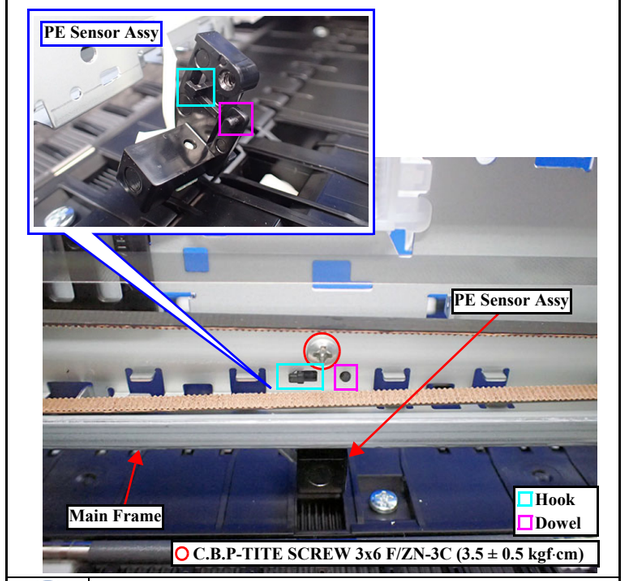


ASSEMBLY

Attach Fax Box in the procedure given below.

1. Remove P/S Unit.
2. Attach Fax Box so that its metal portion attaches to the outer side of the Frame Main Support, and then screw it.
3. Attach P/S Unit.

PE Sensor Assy

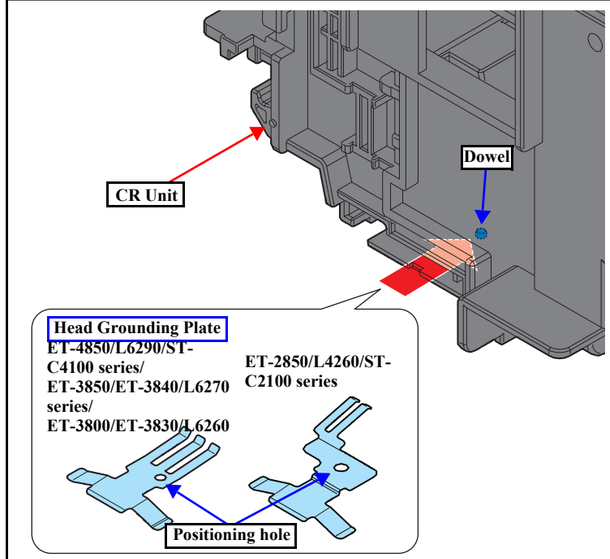


ASSEMBLY

Attach PE Sensor Assy in the procedure given below.

1. Insert hook on PE Sensor Assy into hole on Main Frame.
2. Slide PE Sensor Assy in the direction of the arrow and secure it with dowel.
3. Screw the assy.

Head Grounding Plate



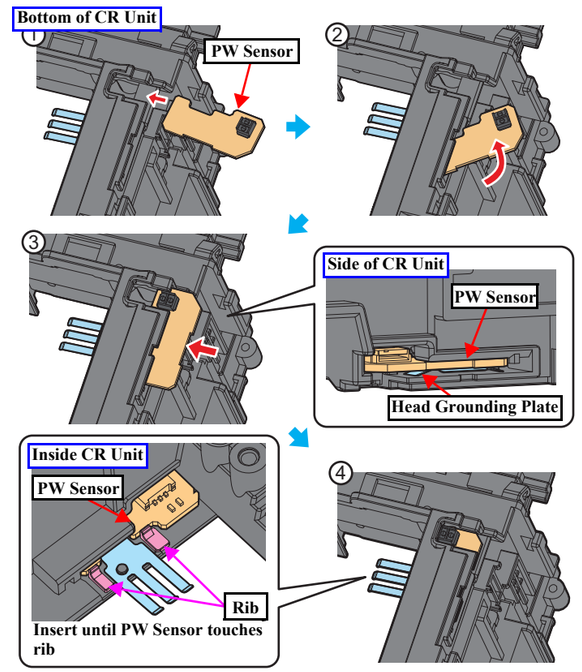
CHECK

Shape of Head Grounding Plate differs by the model.

ASSEMBLY

Insert Head Grounding Plate in the orientation shown above. Take care not to deform it. Insert positioning hole over dowel on CR Unit to secure the plate.

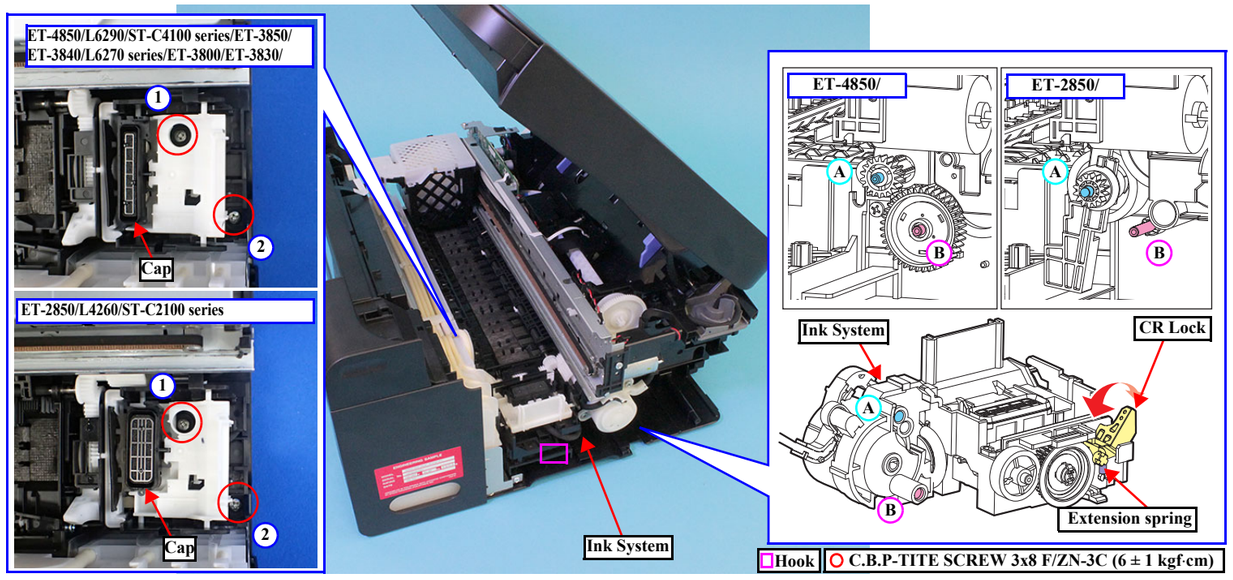
PW Sensor



ASSEMBLY

When attaching PW Sensor, attach it in the procedure given above while paying attention not to drop Head Grounding Plate.

Ink System (1)



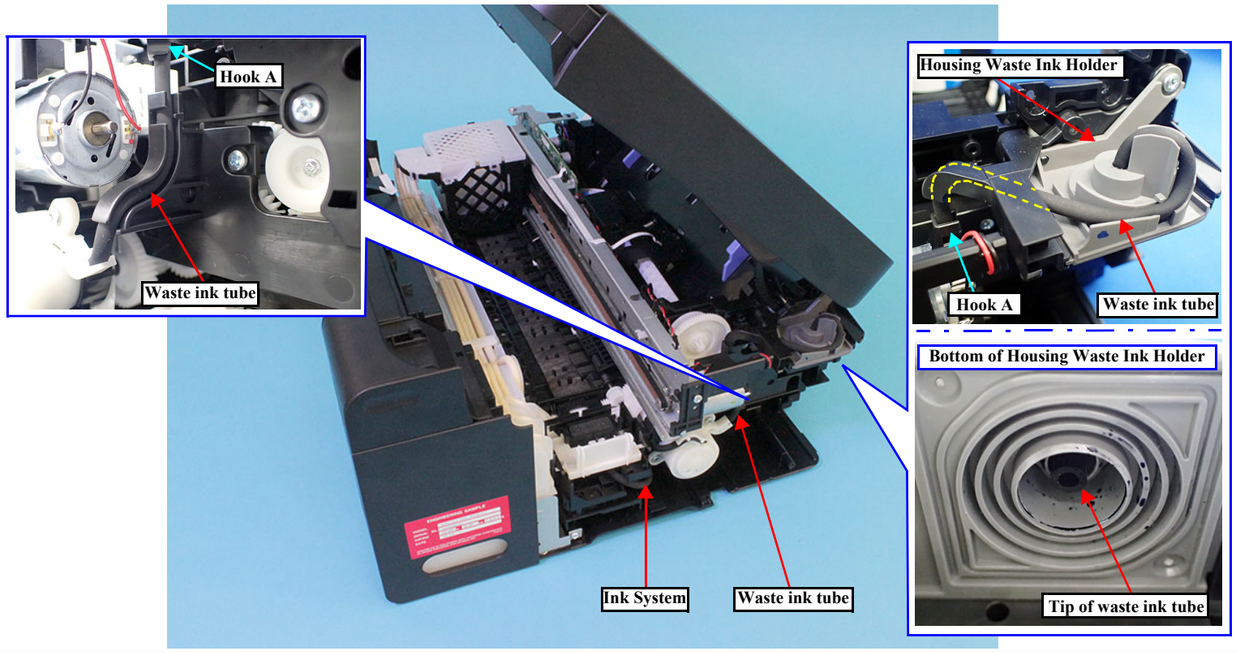
CHECK

Since Print Head differs by the model, shape of cap differs, too.

ASSEMBLY

- Attach Ink System aligning holes and shafts of (A)/(B) shown above, and secure it with hook, then screw it in the order given above.
- After attaching Ink System, move CR Lock in the direction of the arrow to confirm extension spring is hooked.

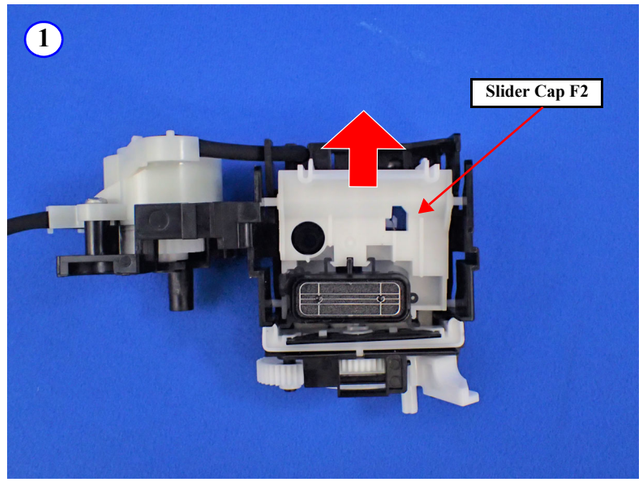
Ink System (2)

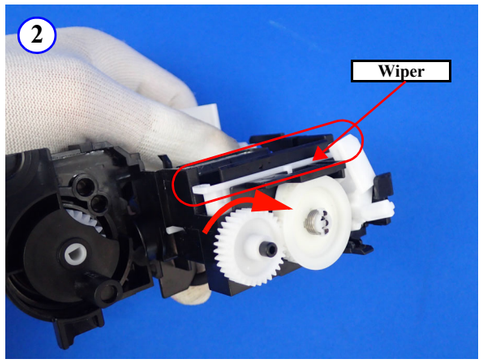


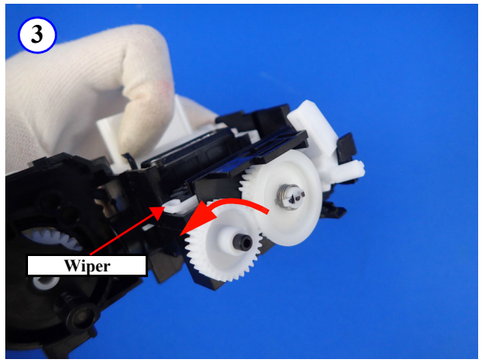
ASSEMBLY

- Route waste ink tube as shown above.
- Be careful not to let the tip of waste ink tube go lower than the bottom edge of Housing Waste Ink Holder.

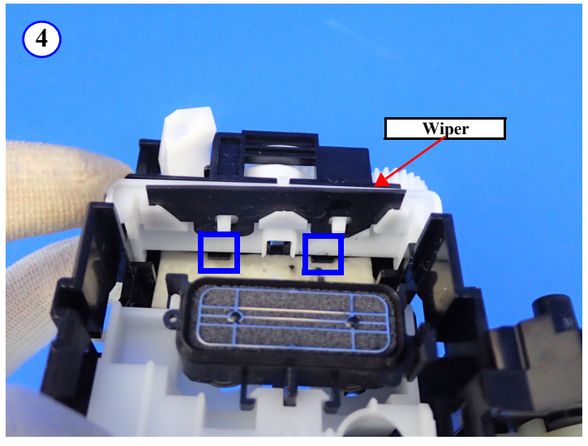
Porous Pad Ink Eject Lower (Only for ET-2850/L4260/ST-C2100 series)

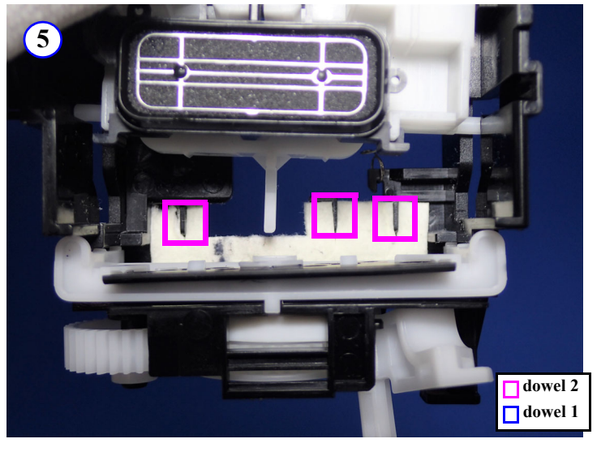






Check Point





ASSEMBLY

Attach the Porous Pad Ink Eject Lower in the procedure given below.

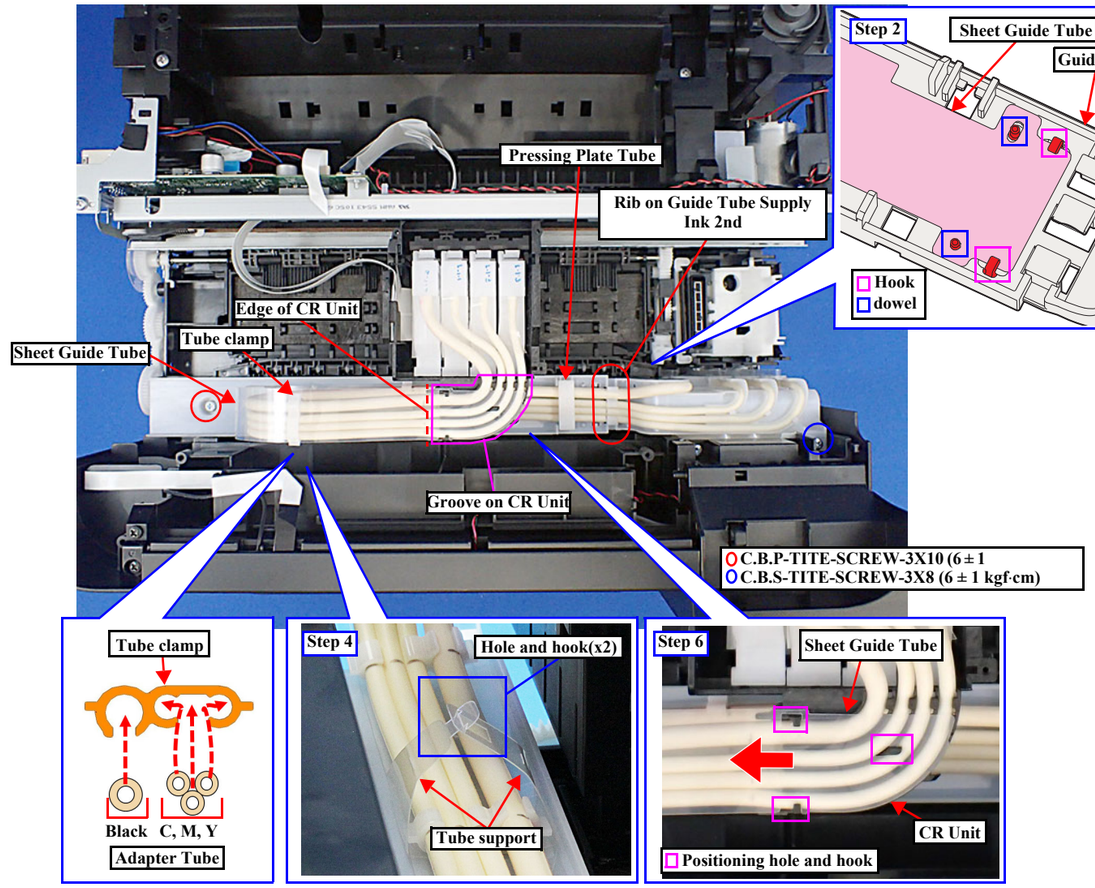
1. While pulling the Slider Cap F2 toward the arrow ①, turn the gear toward the arrow ② and raise the wiper.
2. Attach the Porous Pad Ink Eject Lower to IS unit with tweezers.
3. While pulling the Slider Cap F2 toward the arrow ①, turn the gear toward the arrow ③ and lower the wiper.

CHECK

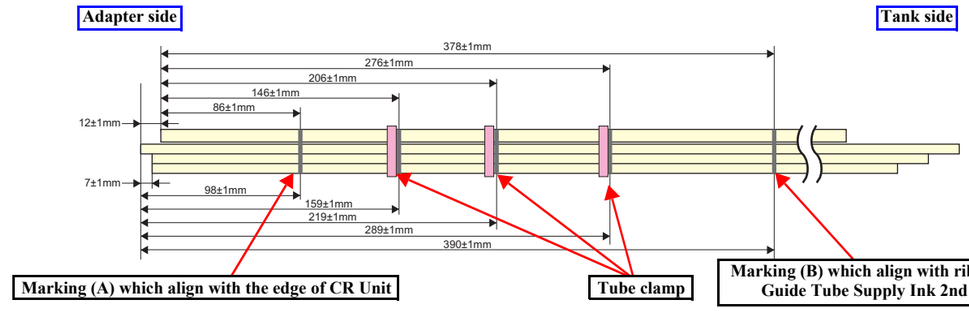
When attach the Porous Pad Ink Eject Lower, check the point given below.

- The Porous Pad Ink Eject Lower is within the dowel 1 of ④ .
- The Porous Pad Ink Eject Lower is firmly fitted to the dowel 2 of ⑤ .

Adapter Tube/Sheet Guide Tube



Step 1: Tube clamp attaching position

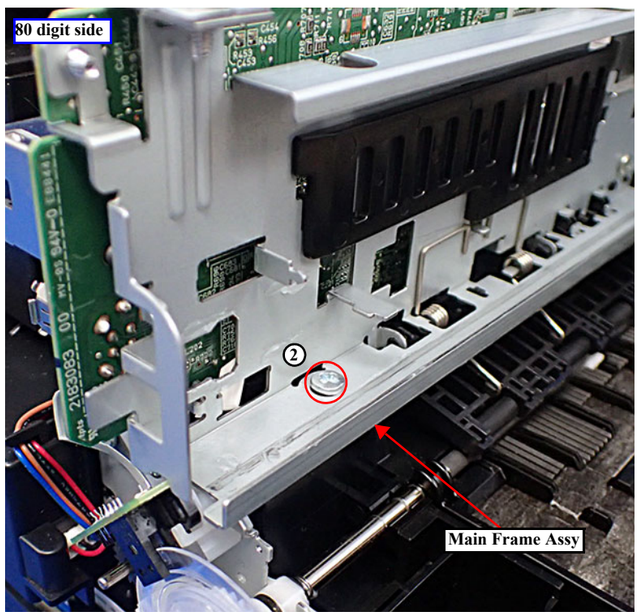


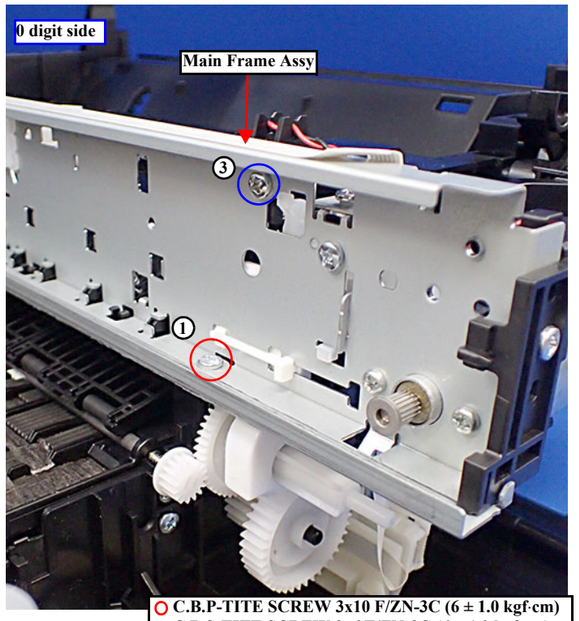
ASSEMBLY

Attach Adapter Tube, Tube clamp, Sheet Guide Tube in the procedure given below.

1. Attach Tube clamps aligning with three markings on Adapter Tube as shown above.
2. Align positioning hole on Sheet Guide Tube with two dowels on Guide Tube and secure them with two hooks.
3. Attach Adapter Tube to Guide Tube Supply Ink 2nd while directing the opening section of tube clamp to Sheet Guide Tube.
4. Bind Adapter Tube with tube support on Sheet Guide Tube and secure it by inserting hook on the end of tube support to hole on tube support.
5. Connect Adapter Tube to Adapter (p 120).
6. Align marking (A) on Adapter Tube shown above with the edge of CR Unit and secure Adapter Tube in groove on CR Unit.
7. Engage three positioning holes on Sheet Guide Tube with three hooks on CR Unit, slide it in the direction of the arrow and secure them.

Main Frame Assy



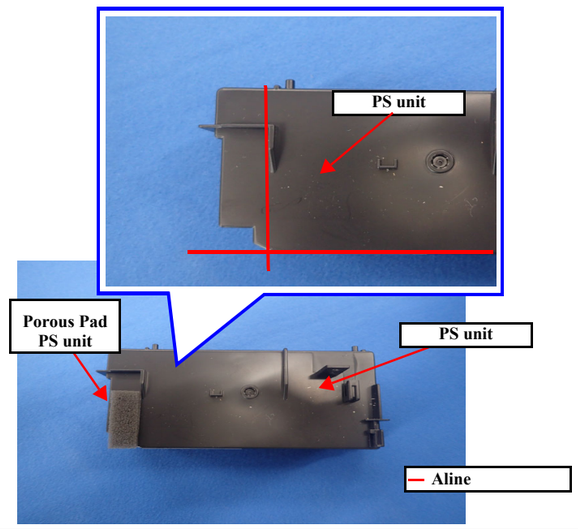


○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1.0 kgf·cm)
○ C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1.0 kgf·cm)

ASSEMBLY

- Screw in the order given above.
- Since Main Frame Assy may deform, do not screw it while holding it.

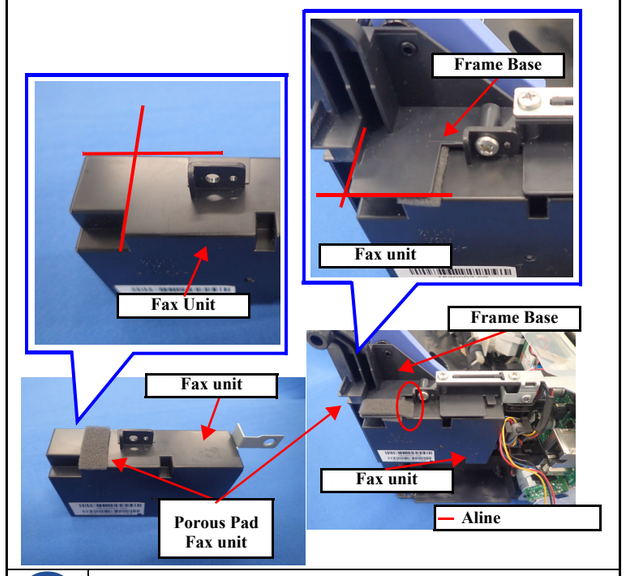
Porous Pad PS Unit



ASSEMBLY

Attach the Porous Pad PS Unit as shown above.

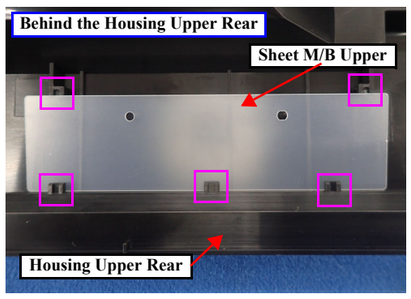
Porous Pad Fax Unit(ET-4800/L5290 Series Only)

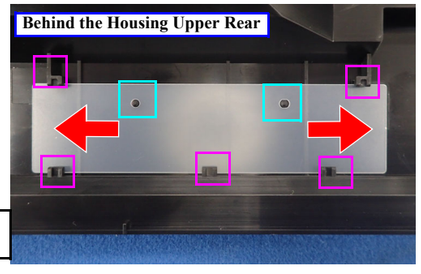


ASSEMBLY

Attach the Porous Pad Fax Unit as shown above.
Porous Pad in the red circle must stick on the Fax Unit.

Sheet M/B Upper



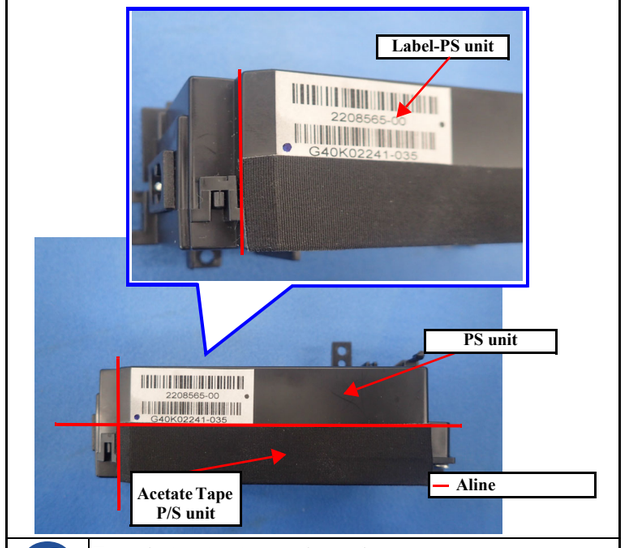


ASSEMBLY

Follow the steps below to transplant the Sheet M/B Upper.

1. Put the sheet M/B Upper in the lower protrusion of the Housing Upper Rear.
2. Slide the Sheet M/B Upper in the state of 1 and put it in the left and right protrusions of the Housing Upper Rear.

Acetate Tape P/S Unit

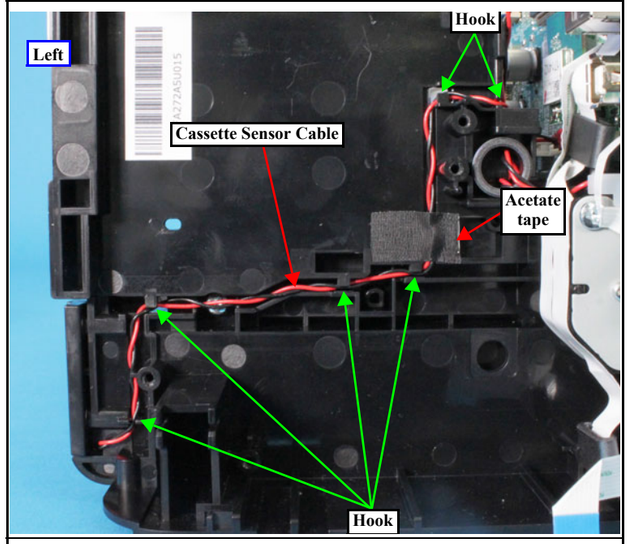


ASSEMBLY

Transplant acetate tape as shown above.

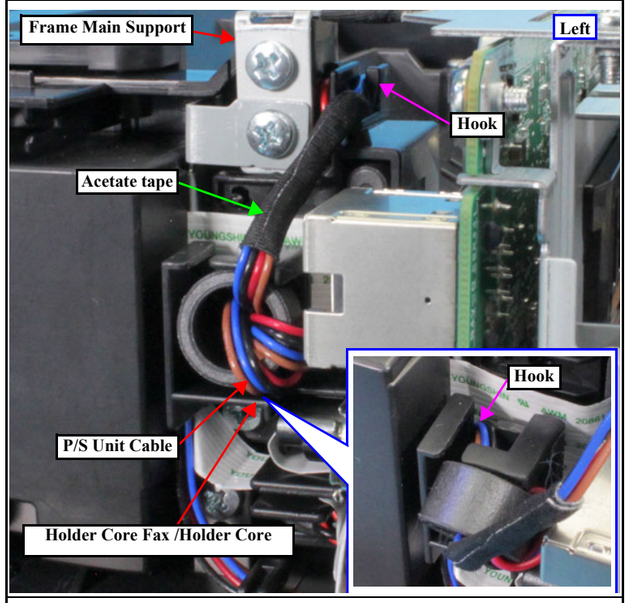
3.4 Routing FFCs/cables

ASF Bank Assy (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



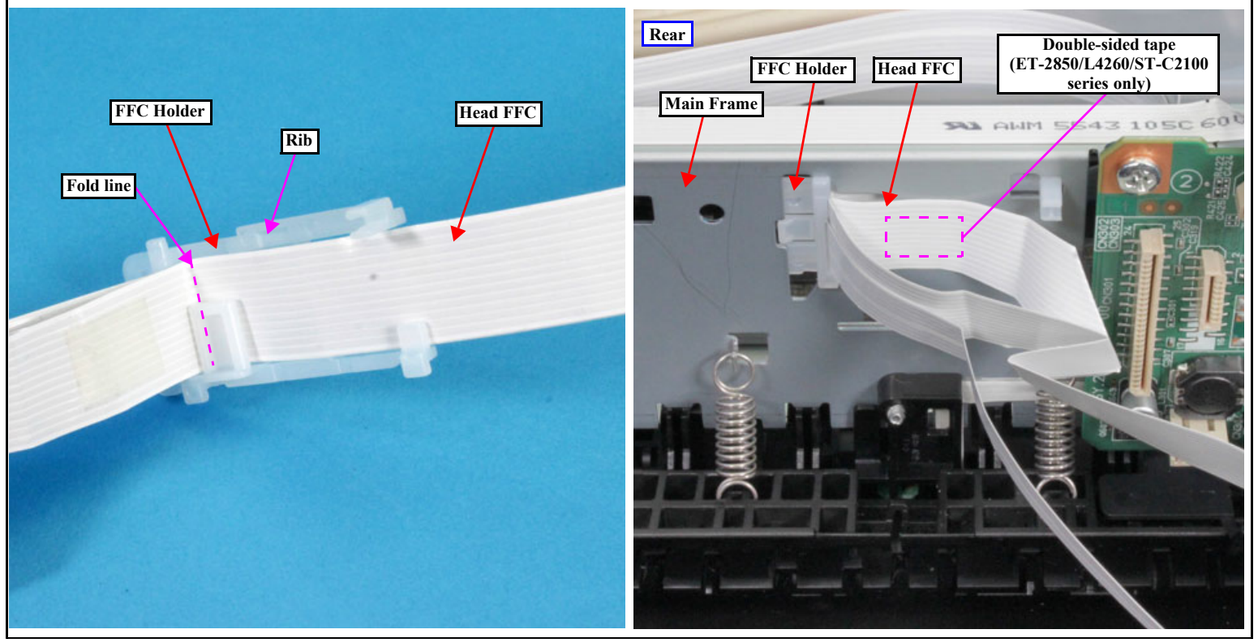
- Secure the Cassette Sensor Cable with the six hooks on the Frame Base Assy.
- Paste the piece of acetate tape (12 mm x 20 mm) to the point shown above.

P/S Unit



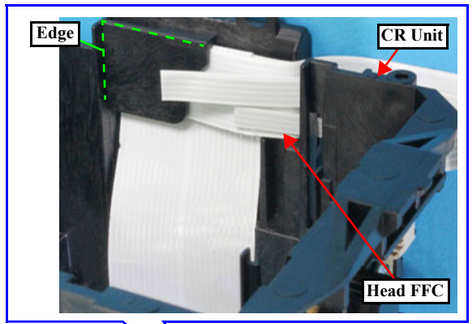
- Route the P/S Unit cable through the two hooks on the P/S Unit, and then route the cable through the two hooks on the holder.
- Route the acetate tape part of the cable to touch the Frame Main Support as shown above.

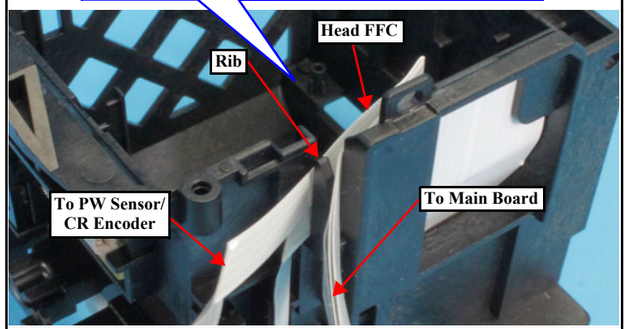
Head FFC (1)



- Align the fold line of the Head FFC with the edge of the FFC Holder and route the FFC.
- Insert the Head FFC into inside of the rib on the FFC Holder.
- Secure the Head FFC to the point shown above with double-sided tape (ET-2850/L4260/ST-C2100 series only).

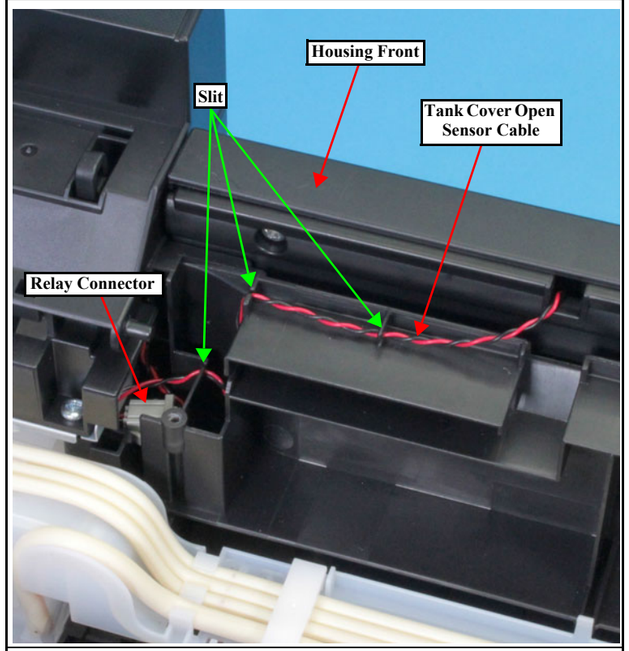
Head FFC (2)





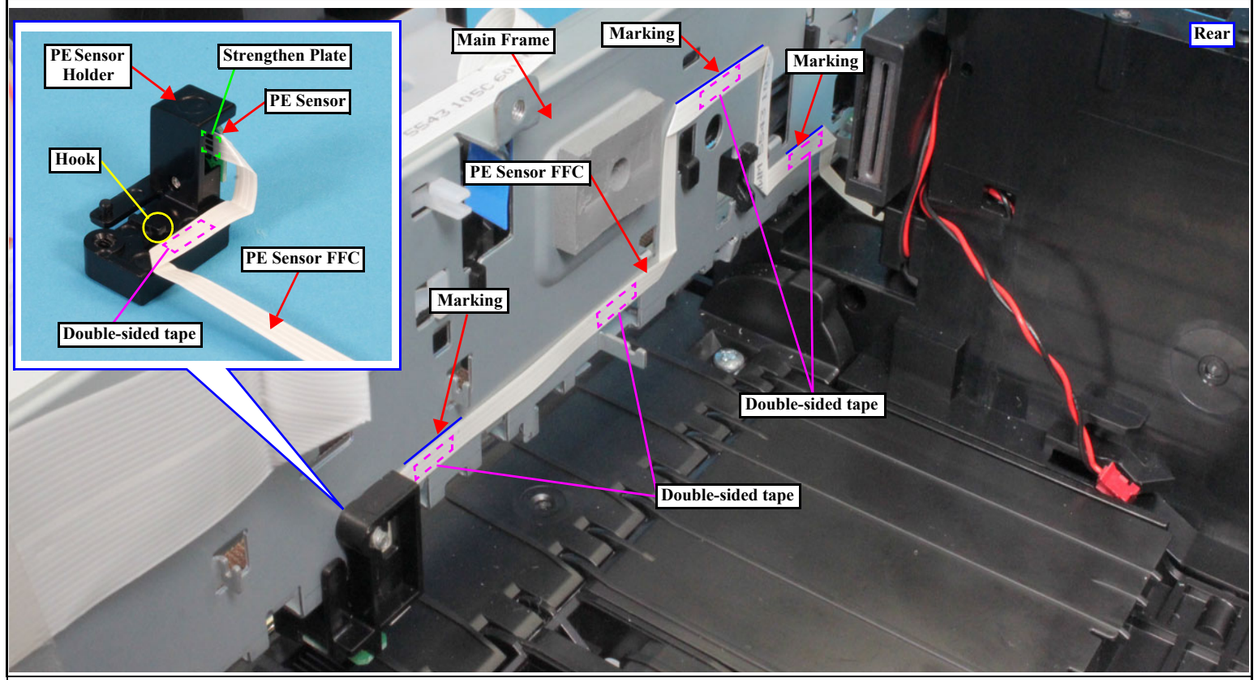
- Route the Head FFC along the edge of the CR Unit shown above.
- Branch the Head FFC at the rib on CR Unit referring as shown above.

Tank Cover Sensor (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



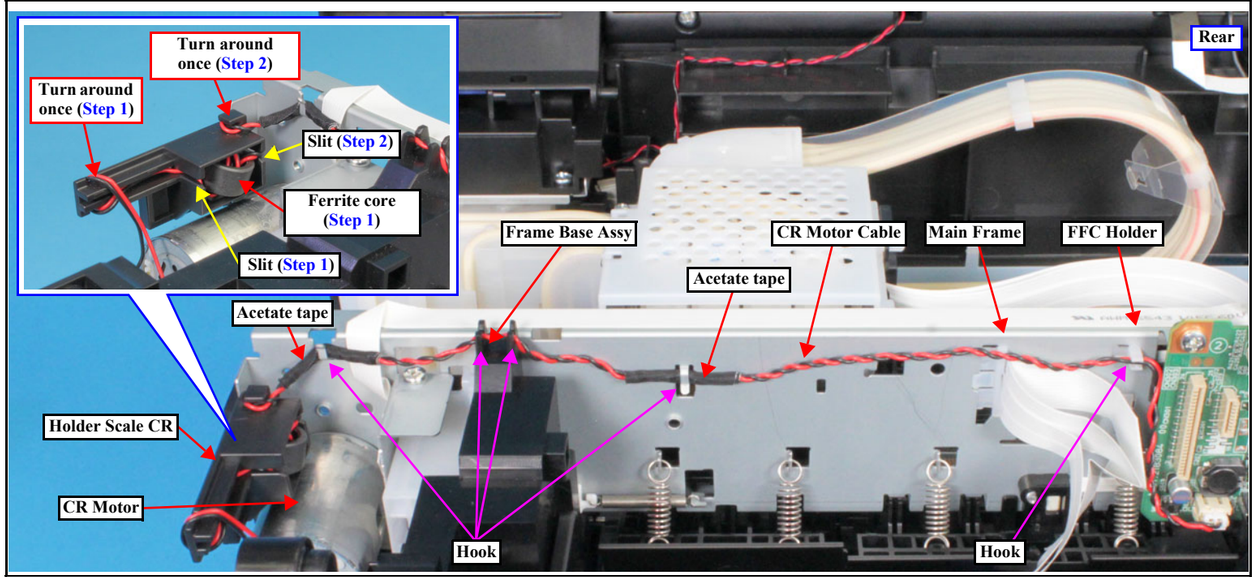
Route the Tank Cover Open Sensor through the three slits on the Housing Front and engage the Relay Connector in the point shown above.

PE Sensor Assy



- Route the PE Sensor FFC under the hook on the PE Sensor Holder and secure it with double-sided tape.
- Route the PE Sensor FFC along the three markings on the Main Frame and secure it with double-sided tape (x4).

CR Motor

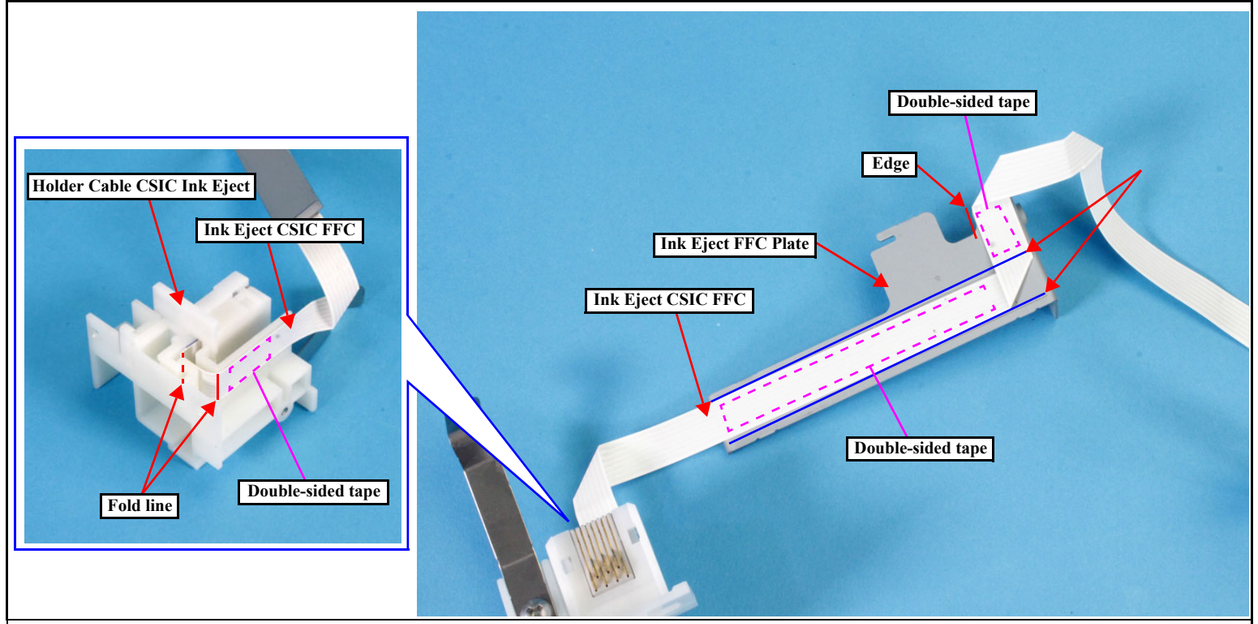


- Route the CR Motor Cable in the procedure given below.

1. After turning the CR Motor Cable around the Holder Scale CR once, route it through the slit and insert the ferrite core in the point shown above.
2. After routing the CR Motor Cable through the slit on the Holder Scale CR, turn the cable around the hook once.
3. Route the CR Motor Cable through the hooks on Frame Base Assy (x2), Main Frame (x2), FFC Holder (x1) and then connect the cable to CN305 connector on the Main Board.

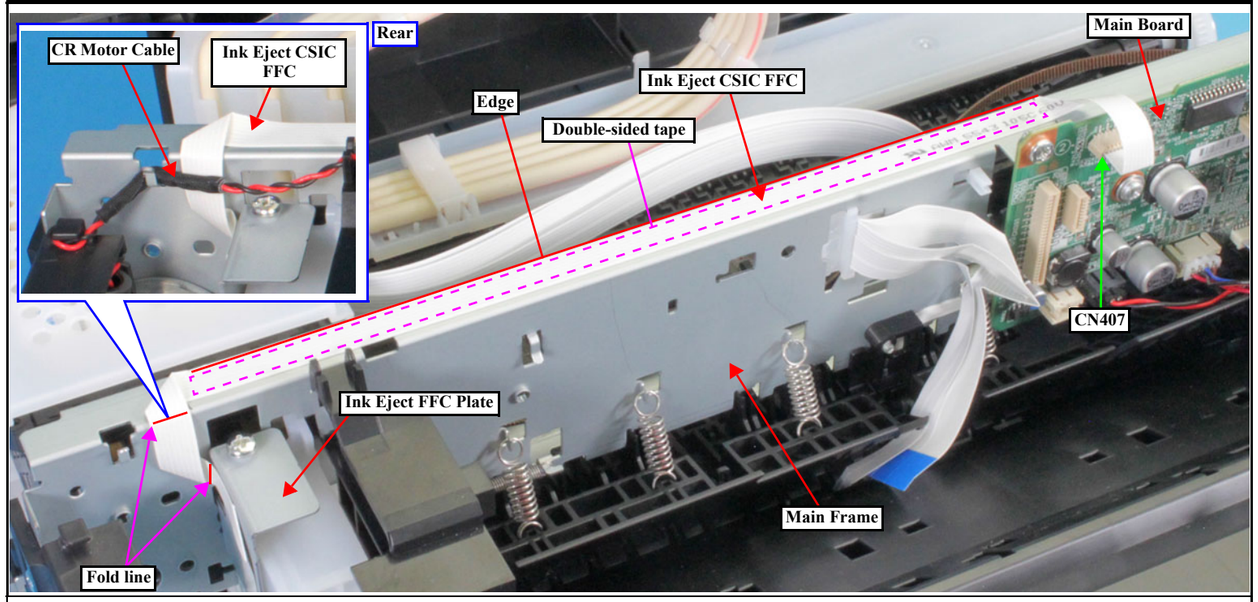
- Hook the acetate tape portions of the CR Motor Cable on the two hooks on the Main Frame.

Ink Eject FFC (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only) (1)



- Route the two fold line of Ink Eject CSIC FFC along the edge of the Holder Cable CSIC Ink Eject shown above and secure the FFC with double-sided tape.
- Route the Ink Eject CSIC FFC along the edge of the Ink Eject FFC Plate.
- Route the Ink Eject CSIC FFC along the marking on the Ink Eject FFC Plate and secure the FFC with double-sided tape (x2).

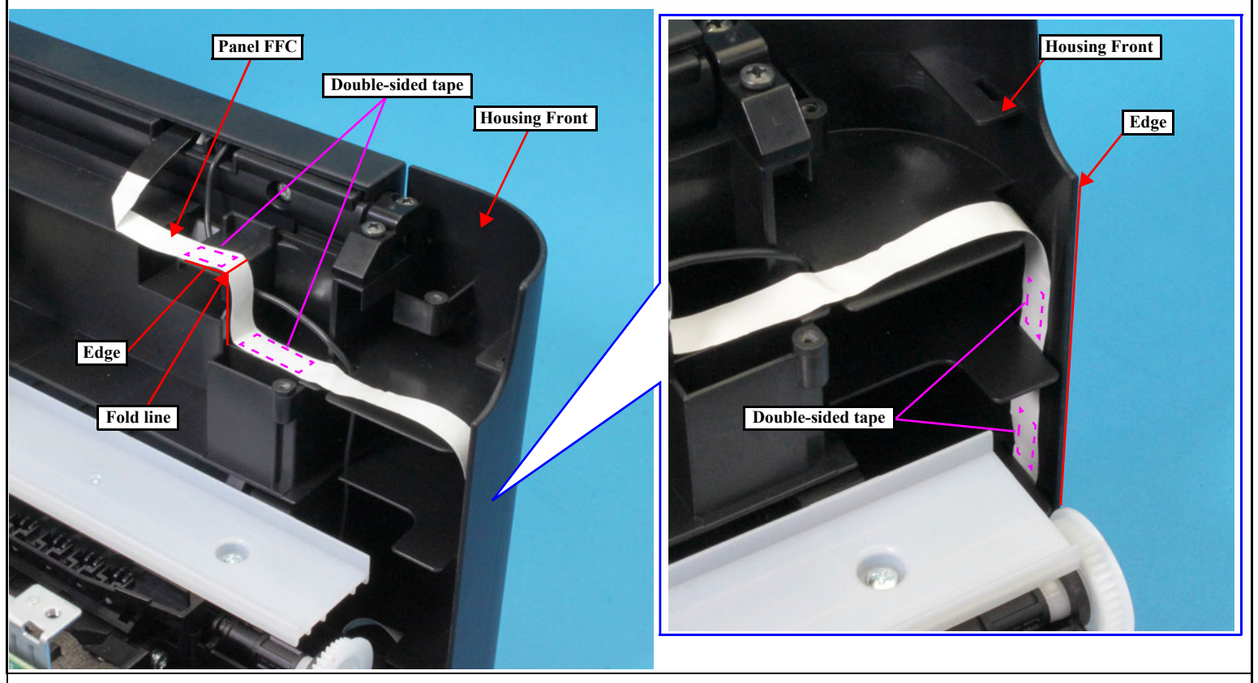
Ink Eject FFC (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only) (2)



Route the Ink Eject CSIC FFC in the procedure given below.

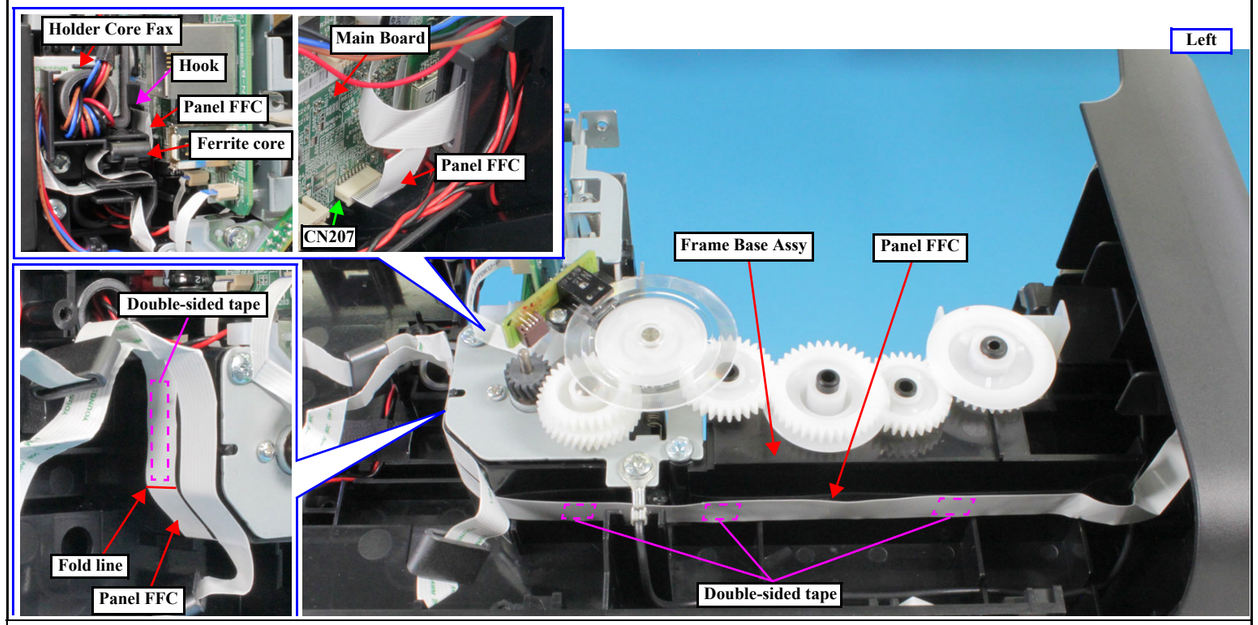
1. Route the Ink Eject CSIC FFC under the CR Motor Cable, and align the two fold lines on the Ink Eject CSIC FFC with the edge of the Ink Eject FFC Plate.
2. Route the FFC along the edge of the Main Frame, and secure it with double-sided tape.
3. Connect the Ink Eject CSIC FFC to CN407 connector of the Main Board.

Panel FFC (1)



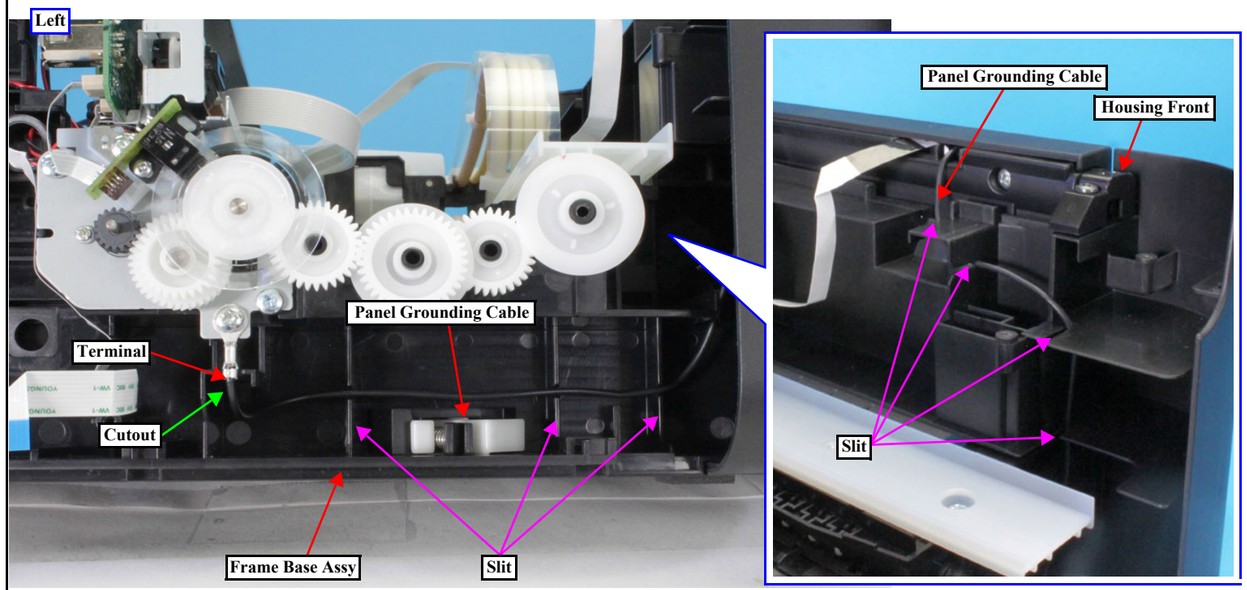
- Route the edge and the fold line of the Panel FFC along the edge of the Housing Front and secure the FFC with double-sided tape (x4).
- When routing the Panel FFC, route it inner than the edge of the Housing Front.

Panel FFC (2)



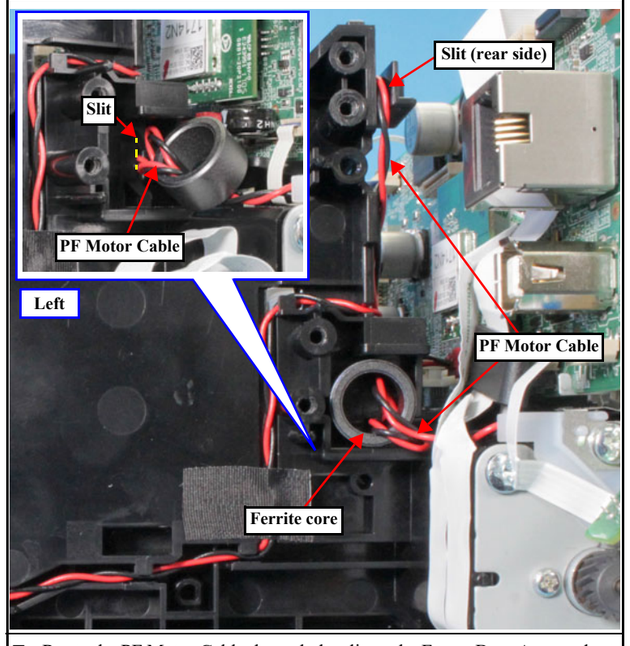
- Secure the Panel FFC to the Frame Base Assy with double-sided tape (x4).
- Set the ferrite core through the Panel FFC to the Holder Core Fax, and route the FFC through the hook on the Holder Core Fax to connect to CN207 connector on the Main Board.

Panel Grounding Cable (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)



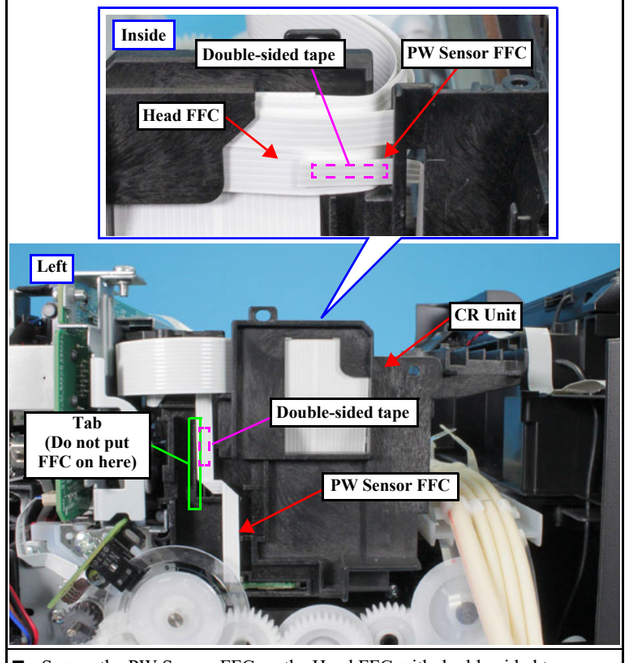
- Attach in the direction that the cutout on the terminal of the Grounding Cable comes outside.
- Route the Panel Grounding Cable through the slits (x7) of Housing Front and Frame Base Assy.

PF Motor Assy



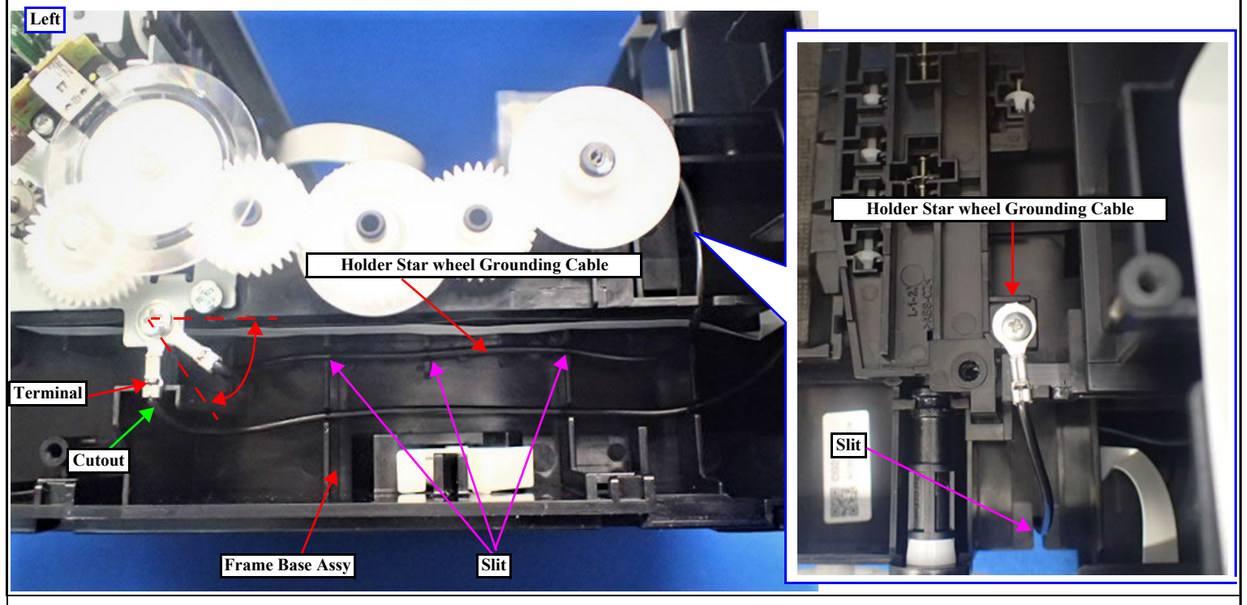
- Route the PF Motor Cable through the slit on the Frame Base Assy and set the ferrite core in the position shown below.
- Route the PF Motor Cable through the slit on the rear side of the Holder Core

PW Sensor



- Secure the PW Sensor FFC on the Head FFC with double-sided tape.
- Route the PW Sensor FFC along the tab on CR Unit and secure the FFC with double sided tape.

Holder Star Wheel Grounding Cable (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)



- Attach in the direction that the cutout on the terminal of the Grounding Cable comes outside.
- Route the Panel Grounding Cable through the slits (x4) of Housing Front and Frame Base Assy.
- Set Holder Star Wheel Grounding Cable to Dashed line area.

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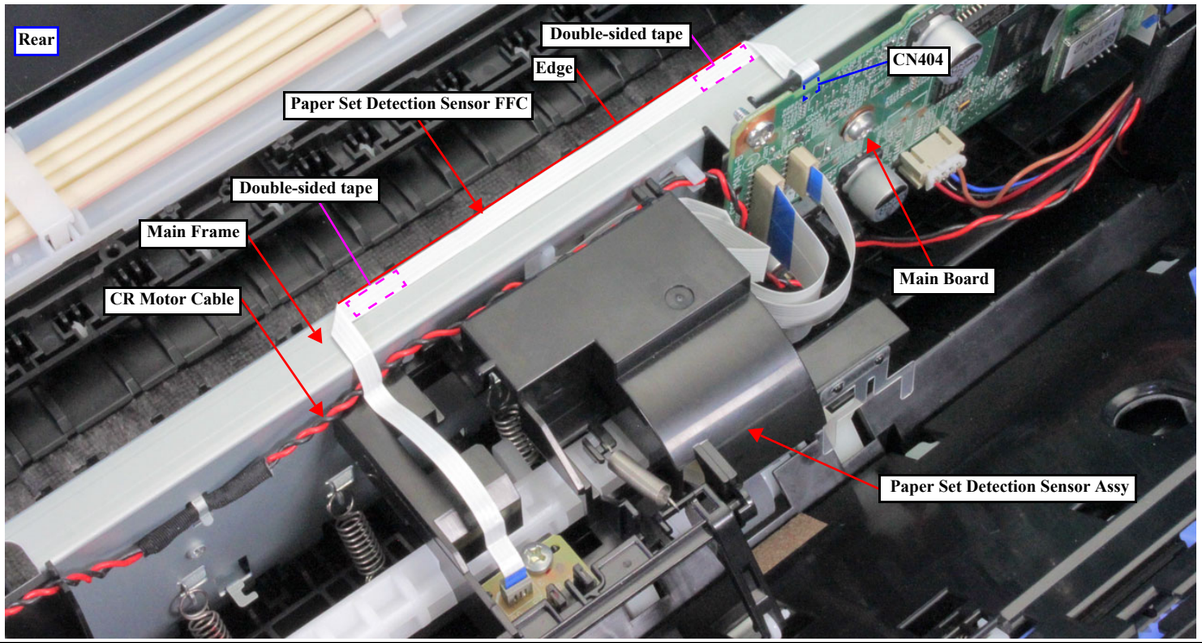
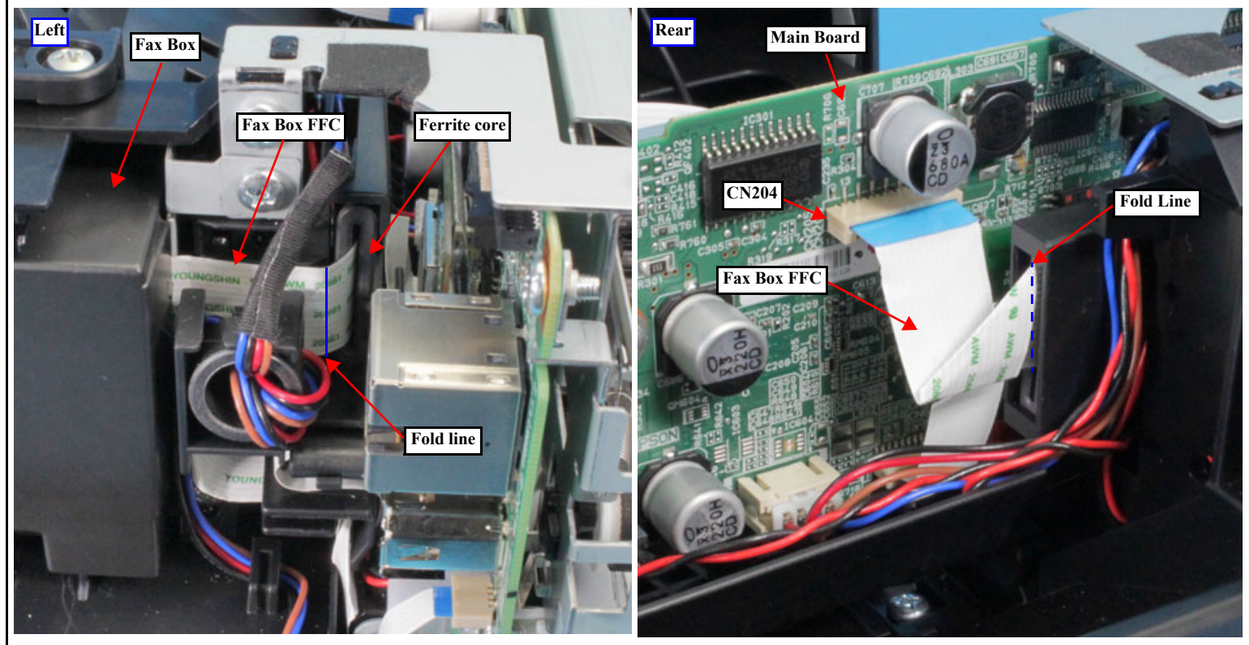
Paper Set Detection Sensor Assy (ET-2850/L4260/ST-C2100 series only)



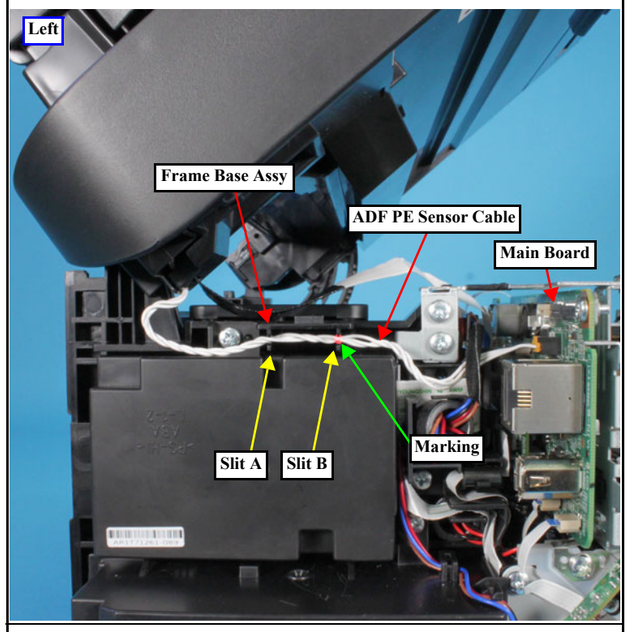
- Route the Paper Set Detection Sensor FFC on the CR Motor Cable.
- Route the Paper Set Detection Sensor FFC along the edge of the Main Frame and connect it to CN404 connector of the Main Board.

Fax Box (ET-4850/L6290/ST-C4100 series only)



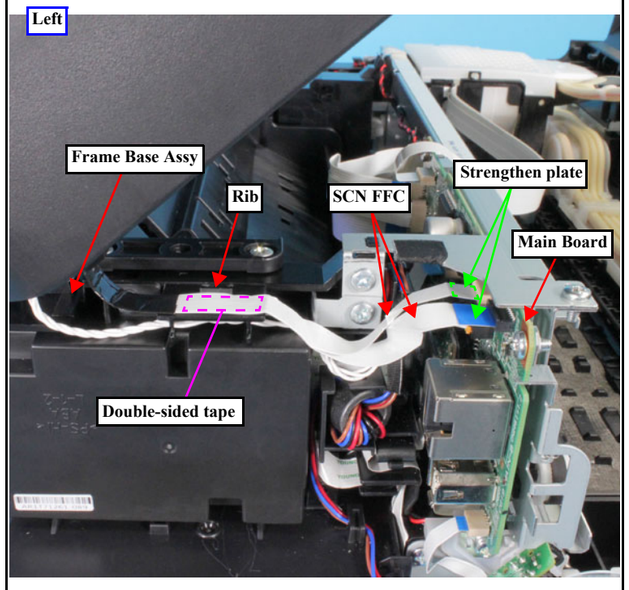
- Align the fold line of the Fax Box FFC to the point shown above and insert the FFC through the ferrite core.
- Fold the Fax Box FFC along the fold line and connect it to CN204 connector of the Main Board.

ADF PE Sensor (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)



Align the marking on the ADF PE Sensor with the slit B shown above, and then route the cable through the slit A/B and connect it to CN411 connector on the Main Board.

SCN FFC



After connecting the SCN FFC to CN409/CN410 connector on the Main Board, align it with the rib on the Frame Base Assy and secure the FFC with double-sided tape.

CHAPTER

4

ADJUSTMENT

4.1 Required Adjustments

The table from the following page lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

- **For ET-2850/L4260/ST-C2100 series, if the EEPROM data cannot be read out from the old Main Board using the Adjustment Program when replacing the Main Board is required, the Waste Ink Tray Assy must be replaced with the Main Board at the same time.**
- **After all required adjustments are complete, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When replacing the Main Board and the Printer Mechanism at the same time, the adjustment should be made after performing the initial setting.**
- **For ET-4850U/2850U, using the function of print, copy and FAX from outside of the printer by printer driver etc. in the procedure given below.**
  1. **Start up adjustment program and connect printer to PC by USB cable.**
  2. **Select 'Printer information check'.**
  3. **Execute print, copy and FAX with keeping printer power ON.(It doesn't matter if the connection with adjustment program is lost)**

  If the printer powered OFF, do step1-3 again.

- **Meaning of the marks used in the tables on the next pages are as follows.**
  - **○ : Required only when replacing**
  - **◎ : Required when removing and/or replacing**
  - **- : No adjustment is required**
- **If there are multiple adjustment items for a replaced part, be sure to carry them out in the priority order indicated in the table.**

ET-4850/L6290/ST-C4100 SERIES/ET-3850/ET-3840/L6270 SERIES/ET-3800/ET-3830/L6260 SERIES

Table 4-1. Adjustment Correspondence Table (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Priority order	Adjustment item \ Relevant parts	Cassette Assy	Duplex Unit	Print Head	Paper Guide Front Assy	Paper Guide Lower Porous Pad	Star Wheel Holder Assy	P/S Unit	ASF Bank Assy	Panel Unit	SCN Unit	Main Board (EEPROM Copy OK)	Main Board (EEPROM Copy NG)	Paper Guide Upper Left	Paper Guide Upper Right	PE Sensor Assy	PE Sensor	PF Roller	Main Frame Assy	CR Motor	CR Unit	PW Sensor	Head Grounding Plate	Paper Guide Lower Porous Pad B & C	Paper Guide Lower Porous Pad D	EJ Roller Assy	PF Motor Assy	ADF Unit
1	Checking the Platen Gap	-	-	◎	-	-	-	-	-	-	-	-	-	-	-	-	-	-	◎	-	○	-	-	-	-	-	-	-
2	Touch panel adjustment	-	-	-	-	-	-	-	-	○	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	EEPROM Data Copy	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Initial Setting (S/No. & MAC Address)	-	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Head ID Input	-	-	○	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Maintenance Counter	-	-	-	-	○	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-
7	Initialize PF deterioration offset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-
8	Initialize PW detector deterioration offset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Photo sensor light emission amount adjustment	-	-	-	-	-	-	-	-	-	-	-	○	-	-	○	○	-	◎	-	◎	◎	-	-	-	-	-	-
10	PF motor heat protection control	-	-	-	-	-	-	○	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	○	-
11	CR motor heat protection control	-	-	-	-	-	-	○	-	-	-	-	○	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-
12	Ink Charge	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	PTS Delay adjustment	-	-	○	-	-	-	-	-	-	-	-	○	-	-	-	-	-	◎	-	-	-	-	-	-	-	-	-
14	PF/EJ adjustment	-	○	-	◎	-	◎	-	-	-	-	-	○	◎	◎	-	-	◎	◎	-	-	-	-	-	-	◎	-	-
15	PF Band adjustment	-	○	-	◎	-	◎	-	-	-	-	-	○	◎	◎	-	-	◎	◎	-	-	-	-	-	-	◎	-	-
16	PW / 1st Dot adjustment	○	○	◎	-	-	-	-	○	-	-	-	○	-	-	○	○	-	◎	-	◎	◎	◎	-	-	-	-	-
17	Head angular adjustment	-	-	◎	-	-	-	-	-	-	-	-	○	-	-	-	-	-	◎	-	◎	-	-	-	-	-	-	-
18	Bi-d adjustment	-	-	◎	-	-	-	-	-	-	-	-	○	-	-	-	-	-	◎	◎	◎	-	-	-	-	-	-	-
19	Paper Skew adjustment	-	-	◎	-	-	-	-	-	-	-	-	○	-	-	-	-	-	◎	◎	◎	-	-	-	-	-	-	-

Table 4-1. Adjustment Correspondence Table (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series)

Priority order	Adjustment item \ Relevant parts	Cassette Assy	Duplex Unit	Print Head	Paper Guide Front Assy	Paper Guide Lower Porous Pad	Star Wheel Holder Assy	P/S Unit	ASF Bank Assy	Panel Unit	SCN Unit	Main Board (EEPROM Copy OK)	Main Board (EEPROM Copy NG)	Paper Guide Upper Left	Paper Guide Upper Right	PE Sensor Assy	PE Sensor	PF Roller	Main Frame Assy	CR Motor	CR Unit	PW Sensor	Head Grounding Plate	Paper Guide Lower Porous Pad B & C	Paper Guide Lower Porous Pad D	EJ Roller Assy	PF Motor Assy	ADF Unit
20	PE adjustment	-	-	-	-	-	-	-	-	-	-	-	○	-	-	◎	◎	-	◎	-	-	-	-	-	-	-	-	-
21	Scanner motor heat protection control	-	-	-	-	-	-	○	-	-	○	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	ADF Type Select	-	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
23	Final check pattern print	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
24	Preparation for shipment	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ET-2850/L4260/ST-C2100 SERIES

Table 4-2. Adjustment Correspondence Table (ET-2850/L4260/ST-C2100 series)

Priority order	Relevant parts / Adjustment item	Duplex Unit	Print Head	Paper Guide Front Assy	Paper Guide Lower Porous Pad	Star Wheel Holder Assy	P/S Unit	Panel Unit	SCN Unit	Main Board (EEPROM Copy OK)	Main Board (EEPROM Copy NG)	Paper Set Detection Sensor Assy	Shaft LD Rear Assy	Frame ASF Rear Assy	PE Sensor Assy	PE Sensor	Paper Guide Upper Left	Paper Guide Upper Right	PF Roller	Main Frame Assy	CR Motor	CR Unit	PW Sensor	Head Grounding Plate	EJ Roller Assy	PF Motor Assy	Porous Pad Ink Eject Lower
1	Checking the Platen Gap	-	◎	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	◎	-	○	-	-	-	-	-
2	EEPROM Data Copy	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Initial Setting (S/No. & MAC Address)	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Head ID Input	-	○	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Maintenance Counter	-	-	-	○	-	-	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
6	Initialize PF deterioration offset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-
7	Initialize PW detector deterioration offset	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Photo sensor light emission amount adjustment	-	-	-	-	-	-	-	-	-	○	-	-	-	○	○	-	-	-	◎	-	◎	◎	-	-	-	-
9	PF motor heat protection control	-	-	-	-	-	○	-	-	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○
10	CR motor heat protection control	-	-	-	-	-	○	-	-	-	○	-	-	-	-	-	-	-	-	-	○	-	-	-	-	-	-
11	Ink Charge	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	PF/EJ adjustment	○	-	◎	-	◎	-	-	-	-	○	◎	◎	◎	-	-	◎	◎	◎	◎	-	-	-	-	◎	-	-
13	PF Band adjustment	○	-	◎	-	◎	-	-	-	-	○	◎	◎	◎	-	-	◎	◎	◎	◎	-	-	-	-	◎	-	-
14	PW / 1st Dot adjustment	○	◎	-	-	-	-	-	-	-	○	◎	◎	◎	○	○	-	-	-	◎	-	◎	◎	◎	-	-	-
15	Head angular adjustment	-	◎	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	◎	-	◎	-	-	-	-	-
16	Bi-d adjustment	-	◎	-	-	-	-	-	-	-	○	-	-	-	-	-	-	-	-	◎	◎	◎	-	-	-	-	-
17	PE adjustment	-	-	-	-	-	-	-	-	-	○	-	-	-	◎	◎	-	-	-	◎	-	-	-	-	-	-	-
18	Scanner motor heat protection control	-	-	-	-	-	○	-	○	-	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Final check pattern print	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
20	Preparation for shipment	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

4.2 Adjustment Program

This section provides the operating environment, functions related to safety and privacy policy, and the adjustment item newly added of the Adjustment Program. See " 4.1 Required Adjustments (p141)" for the adjustments not explained here.

4.2.1 Operating Environment

The operating environment for the Adjustment Program is as follows.

- OS: Windows 7, Windows 8.1, Windows 10, Windows 11
- Interface:USB

4.2.2 Adjustment and Inspection List

☐ Mechanical adjustments and inspections

Adjustment name		Purpose	Adjustment procedure overview	Tools	Reference
Check	Checking the Platen Gap	Set the clearance of the gap between the nozzle surface of the print head and the platen to an appropriate amount.	Place a thickness gauge in the specified location and then move the carriage unit over the thickness gauge and check the clearance.	• Thickness gauge. • Teflon tape	P.158
	Touch panel calibration	Adjust the position relationship between LCD screen and touch panel detection coordinate.	Execute “Touch Screen Calibration” in service support mode, press “+” displayed on the screen with a touch pen following the on-screen instructions.	Touch pen (without a sharp end such as a plastic stick)	P.161

☐ Software adjustments and inspections

Adjustment Item		Purpose	Adjustment / inspection paper / feed tray	Adjustment procedure overview	Tools	Reference
Category	Name					
Initial settings	EEPROM Data Copy	When the Main Board needs to be replaced, use this to copy adjustment values stored on the old Main Board to the new board. If this copy is completed successfully, all the other adjustments required after replacing the Main Board are no longer be necessary.	---	With the old Board installed, use the adjustment program to read out the EEPROM data, and after exchanging with the new Board, load the read out data.	• Adjustment Program	---
	Initial Setting	This must be carried out after replacing the Main Board to apply settings for the target market, etc. Perform MAC address Setting and default password Setting if necessary.	---	Enter the product serial number of the printer using the adjustment program, and write the initial setting information onto the Main Board. If the printer has a password label attached, set the password to the default password on the label.	• Adjustment Program	---
	Head ID Input	Input the ID incorporating the correction values for print head production variations.	---	Select "Head ID Input" from the Adjustment Program and execute the item. (Auto input) After the ID is input, check that the correct print head ID has been written in the same menu.	• Adjustment Program	---
	Initialize PF deterioration offset	Reset the deterioration correction counter.	---	Select "Initialize PF deterioration offset" or "Initialize PW sensor deterioration counter" from the Adjustment Program and execute the counter reset.	• Adjustment Program	---
	Initialize PW detector deterioration counter		---		• Adjustment Program	---

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Adjustment Item		Purpose	Adjustment / inspection paper / feed tray	Adjustment procedure overview	Tools	Reference
Category	Name					
Adjustment (Mechanical)	PF motor heat protection control	Measure product variations to set the appropriate correction values. Also, make a pass/fail judgment by calculating whether or not the operation load is within the expected range from the motor current value.	---	Automatically measure the correction value and perform the operation load check by selecting "XX heat protection control" from the Adjustment Program menu and executing the item.	• Adjustment Program	---
	CR motor heat protection control		---			---
	Scanner motor heat protection control		---			---
	ADF Type Select	Set the appropriate paper feed correction values for ADF.	---	Check the label on the bottom of the ADF and select the corresponding ADF type from the Adjustment Program to write the appropriate ADF type setting.		---

Adjustment Item		Purpose	Adjustment / inspection paper / feed tray	Adjustment procedure overview	Tools	Reference
Category	Name					
Adjustment (Print adjustment by program)	PTS Delay adjustment*1	Correct the impact offset caused by a difference in the speed of the low speed part and acceleration/deceleration part of the CR.	Paper type: Photo matte paper Size: A4	Select “PTS delay adjustment” from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the PTS delay adjustment menu.	• Adjustment Program	P.152
	PF/EJ adjustment	Use software to correct the offset due to mechanical variations and media transportation characteristics.	Paper type: Photo matte paper Size: A4	Select "PF/EJ adjustment" from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the PF/EJ adjustment menu.	• Adjustment Program	P.152
	PF Band adjustment	Use software to correct the offset of when band printing due to mechanical variations and media transportation characteristics.	Paper type: Plain Paper Size: A4	Select "PF Band adjustment" from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the PF Band adjustment menu.	• Adjustment Program	P.153
	PW / 1st Dot adjustment	PW Adjustment: Use software to correct the offset due to sensor characteristics and attachment variations. 1st Dot Adjustment: Use software to correct the print timing so that the main scanning direction print start position becomes the target value.	Paper type: Photo matte paper Size: A4	Select "PW / 1st Dot adjustment" from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the PW / 1st Dot adjustment menu.	• Adjustment Program • Ruler	P.154

Adjustment Item		Purpose	Adjustment / inspection paper / feed tray	Adjustment procedure overview	Tools	Reference
Category	Name					
Adjustment (Print adjustment by program)	Head angular adjustment	Use software to correct the vertical/ horizontal tilt occurs when installing the head.	Paper type: Plain Paper Size: A4	Select "head angular adjustment" from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the head angular adjustment menu.	• Adjustment Program	P.155
	Bi-d adjustment	Use software to correct the print timing for aligning the print position between the outward path and return path when bidirectional printing.	Paper type: Plain Paper Size: A4	Select "Bi-d adjustment" from the Adjustment Program and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the Bi-d adjustment menu.	• Adjustment Program	P.156
	Paper Skew adjustment	Use software to correct the print timing for aligning the print position between the outward path and return path when bidirectional printing in band feed mode.	Paper type: Plain Paper Size: A4	Select "Paper Skew adjustment" from the Adjustment Program menu and execute the item to print the adjustment pattern. Determine the adjustment value from the adjustment pattern based on the judgment criteria and then enter the adjustment value from the Paper Skew adjustment menu.	• Adjustment Program	P.157
	PE adjustment	Use software to correct the paper detection position offset caused by variations in the PE sensor attachment position and print head position.	Paper type: Plain Paper Size: A4	Select "PE adjustment" from the Adjustment Program menu and execute, and run plain paper through. Correct in software paper errors in detected position.	• Adjustment Program	---

Adjustment Item		Purpose	Adjustment / inspection paper / feed tray	Adjustment procedure overview	Tools	Reference
Category	Name					
Maintenance	Head Cleaning	Run this cleaning when dots missing is observed on an adjustment pattern printed by the adjustment program.	---	Perform a head cleaning using the adjustment program, and print a nozzle check pattern to see if all the nozzles fire ink properly.	• Adjustment Program	---
	Ink Charge	This must be carried out after replacing the Print Head in order to fill ink inside the all nozzles of the new ASP Print Head.	---	After installing the Waste Ink Tray Assy, perform an ink charge using the adjustment program, and print a nozzle check pattern to see if all the nozzles fire ink properly. The auto cleaning is also settable.	• Adjustment Program	---
	Waste ink pad counter	When a maintenance error occurs, replace the waste ink pad and reset the counter for the pad using this menu. When the counter is nearly full, but the error has not occurred yet, you can do the same to prevent the user from ordering repair service again in the near feature.	---	After exchanging the Porous Pad (Waste Ink Tray Assy/Paper Guide Lower Waste Ink Pad Assy)/Porous Pad Ink Eject Lower (Only for ET-2850/L4260/ST-C2100 series), initialize the counter by the adjustment program.	• Adjustment Program	---
	Final check pattern print	Use this to check if the all adjustments have been properly made.	Paper type: Plain Paper, Photo Matte paper Size: A4	The all adjustment patterns are printed automatically.	• Adjustment Program	---
	Printer startup mode selection*2	Execute to switch to one of the following printer startup modes. ☐ Normal mode ☐ Printer mode ☐ Service support mode	---	Select and execute the printer startup mode you want to start from the Adjustment Program menu. After executing the printer mode or service support mode, be sure to return to the normal mode to finish the work.	• Adjustment Program	---
	Preparation for shipment	After repairs, reset the error history, and as necessary select cleaning when the printer is next turned on.	---	Select "Preparation for shipment" from the Adjustment Program menu and execute it.	• Adjustment Program	---

Note "*1": Except for ET-2850/L4260/ST-C2100 series

"*2": Except for ET-3800/ET-3830/L6260 series

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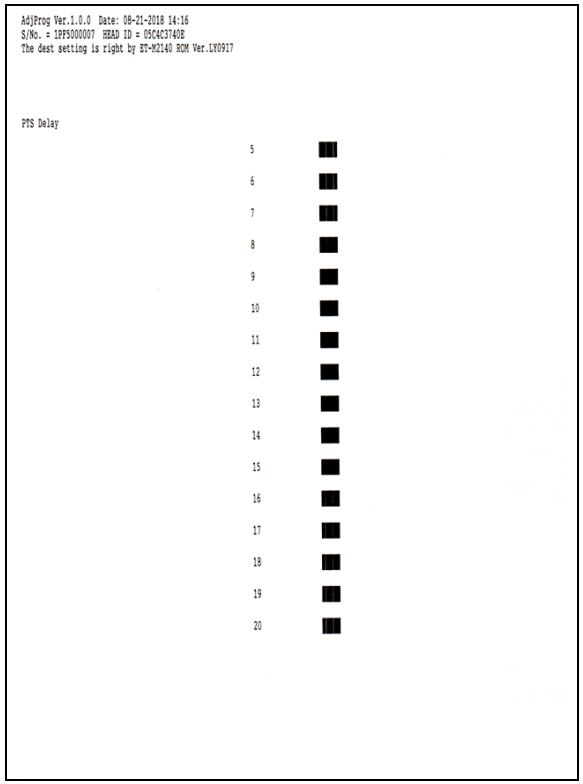
4.2.3 Details of the Adjustment Program

PTS DELAY ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type: Plain paper

☐ Adjustment pattern



☐ Judgment
Select the pattern for which there is no gap and overlapping of the left and right patterns.

☐ Adjustment procedure

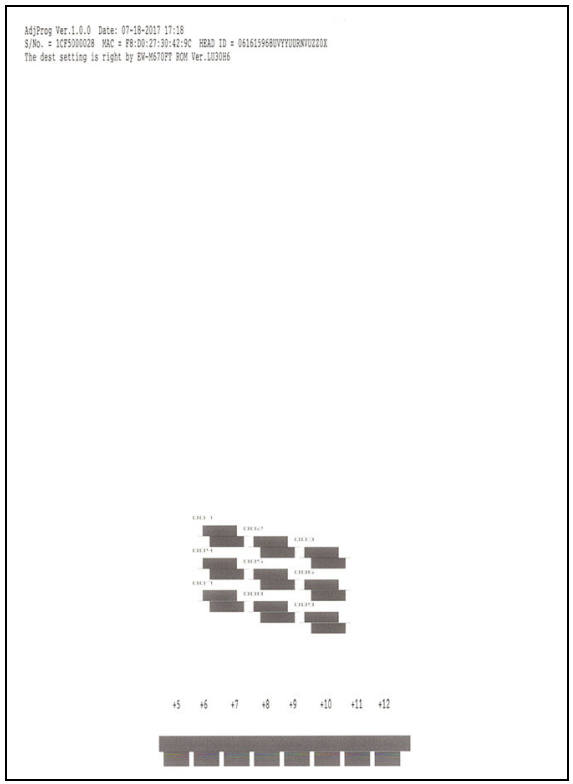
1. Start the Adjustment Program.
2. Select “PTS delay adjustment”.
3. The PTS delay adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

PF/EJ ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type: Photo matte paper

☐ Adjustment pattern


AdjProg Ver.1.0.0 Date: 07-18-2017 17:18
S/No. = ICF5000028 MAC = F8:D0:27:30:42:9C HEAD ID = 06161596HUVYYUURNYUZZOX
The dest setting is right by EW-M670FT ROM Ver.LUI0H6
+5 +6 +7 +8 +9 +10 +11 +12

☐ Judgment

Select the numerical value of the pattern that has no overlapping of the upper and lower blocks and the least white bands.

☐ Adjustment procedure

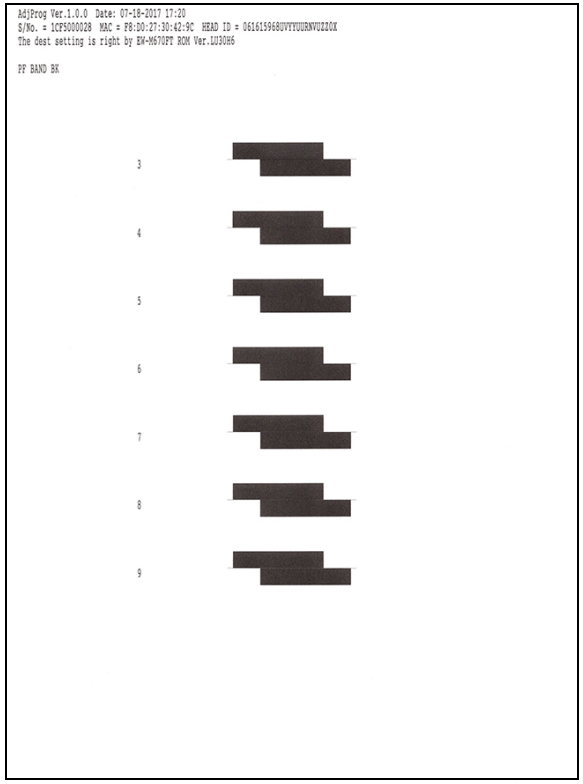
1. Start the Adjustment Program.
2. Select “PF/EJ adjustment”.
3. The PF/EJ adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

PF BAND ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type:Plain paper

☐ Adjustment pattern



☐ Judgment
Select the numerical value of the pattern that has no overlapping of the upper and lower blocks and the least white bands.

☐ Adjustment procedure

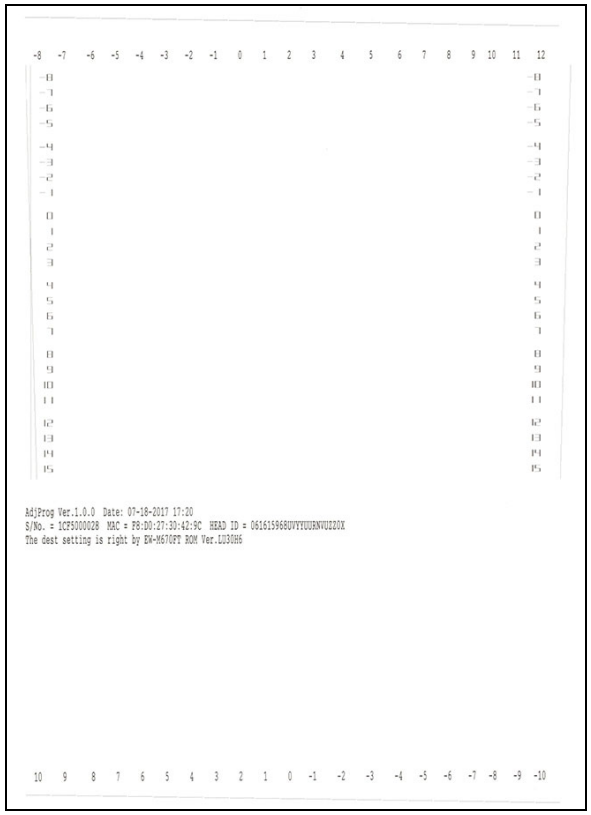
1. Start the Adjustment Program.
2. Select “PF Band adjustment”.
3. The PF Band adjustment menu appears
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

PW / 1ST DOT ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type: Photo matte paper

☐ Adjustment pattern



☐ Judgment

- ■ PW adjustment:
  From the stepped patterns printed on the bottom, top, left, and right edges of the paper, select the numerical value that is 5 mm from the edge of the paper for each of them.
- ■ 1st Dot adjustment:
  Select the value at the location of the misaligned pattern and straight lines printed on the left of the paper.

☐ Adjustment procedure

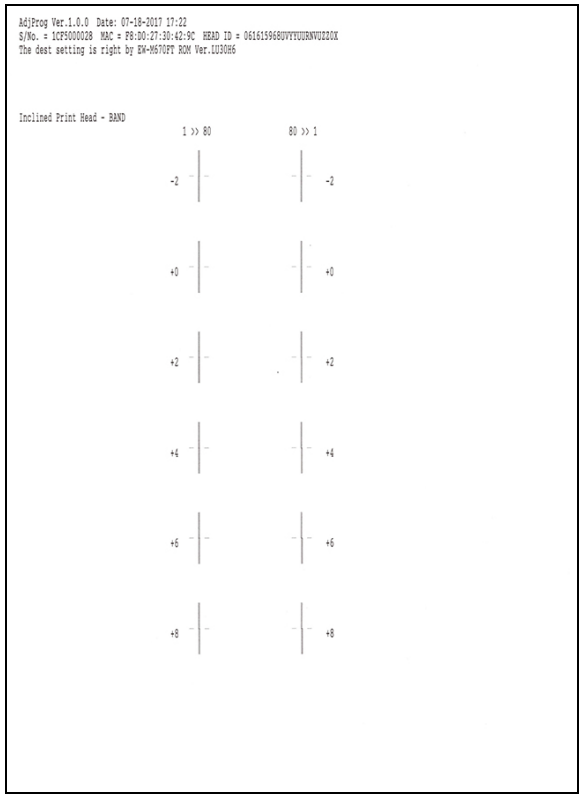
1. Start the Adjustment Program.
2. Select “PW / 1st Dot adjustment”.
3. The PW / 1st Dot adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

HEAD ANGULAR ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type:Plain paper

☐ Adjustment pattern



☐ Judgment
From among the printed patterns, select the pattern where the above and below lines are the straightest.

☐ Adjustment procedure

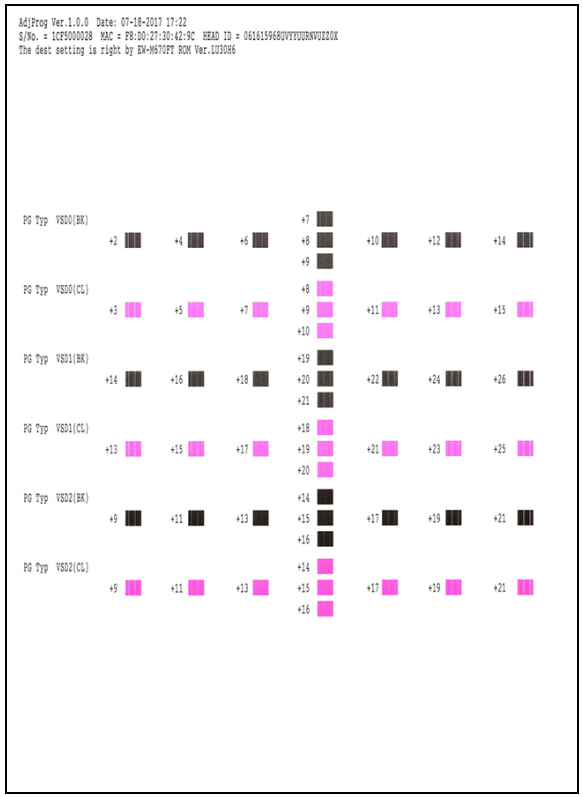
1. Start the Adjustment Program.
2. Select “Head angular adjustment”.
3. The Head angular adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

BI-D ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type:Plain paper

☐ Adjustment pattern


AdjProg Ver.1.0.0 Date: 07-18-2017 17:22
S/No. = 1CF5000028 MAC = F8:D0:27:30:42:9C HEAD ID = 061615968UVYYUURNVUZZOX
The dest setting is right by EW-M670FT ROM Ver.LU30H6
PG Typ VSD0(BK)
PG Typ VSD0(CL)
PG Typ VSD1(BK)
PG Typ VSD1(CL)
PG Typ VSD2(BK)
PG Typ VSD2(CL)

☐ Judgment

Select the pattern for which there is no gap and overlapping of the left and right patterns.

☐ Adjustment procedure

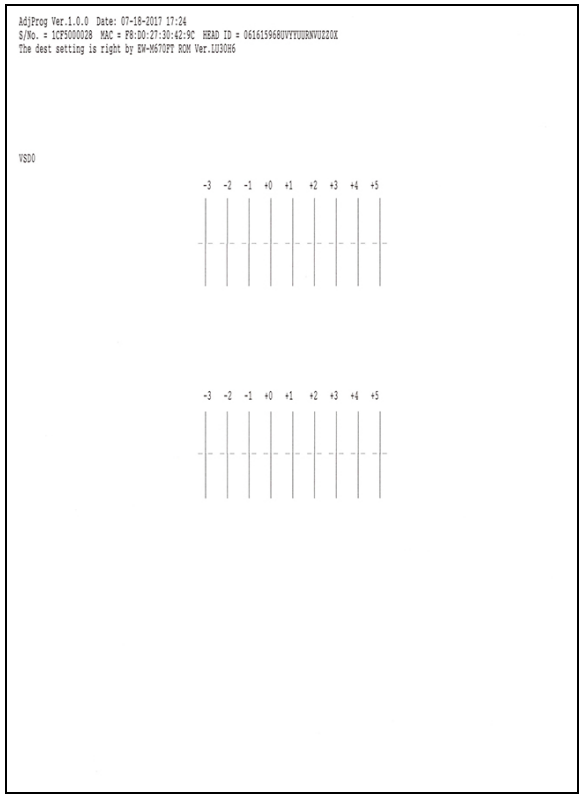
1. Start the Adjustment Program.
2. Select “Bi-d adjustment”.
3. The Bi-d adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

PAPER SKEW ADJUSTMENT

☐ Paper and feed tray

- ■ Paper size: A4
- ■ Paper type:Plain paper

☐ Adjustment pattern


AdjProg Ver.1.0.0 Date: 07-18-2017 17:24
S/No. = 1CF5000028 MAC = F8:D0:27:30:42:9C HEAD ID = 06161596UVYYUURNVUZZOX
The dest setting is right by EW-M670FT ROM Ver.JU30H6
VSD0
-3 -2 -1 +0 +1 +2 +3 +4 +5
-3 -2 -1 +0 +1 +2 +3 +4 +5

☐ Judgment

From among the printed patterns, select the pattern where the above and below lines are the straightest.

☐ Adjustment procedure

1. Start the Adjustment Program.
2. Select “Paper Skew adjustment”.
3. The Paper Skew adjustment menu appears.
4. Load paper into the paper feed tray.
5. Press the [Print] button to print the adjustment pattern.
6. Check the adjustment pattern.
7. Check the adjustment pattern and determine the adjustment value based on the judgment procedure.
8. Enter the adjustment value.
9. Check that an adjustment value is entered and then press the [Finish] button to end adjustment.

4.3 Mechanism Adjustment / Check

4.3.1 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG).

CHECK

- **The standard range of the PG is as follows:**
  - **Standard: 1.70 +/- 0.25 mm**
- **Check the platen gap before installing the CR Scale, after attaching the adapter.**

☐ Tools (for µTFP1S head)

- Thickness gauges for PG check: 1.37 mm gauge, 1.87 mm gauge
- Teflon tape: Commercially available product (thickness: 0.08 mm)

☐ Tools (for F2 head)

- Thickness gauges for PG check: 1.45 mm gauge, 1.95 mm gauge

4.3.1.1 Preparation

This section describes how and what to prepare for the preparation before starting the PG check.

☐ Modification of the thickness gauges

CAUTION

- **The µTFP1S Head of this printer has an integral structure of the Print Head Cover and Print Head nozzle surface. Therefore, if the thickness gauge touches the nozzle surface in the same way as performed in the traditional procedure, the nozzle surface may be damaged. When checking the platen gap, make sure to apply Teflon tape (thickness: 0.08 mm) on all the thickness gauges used for checking the Platen Gap in advance.**
- **It is not necessary to apply Teflon tape on the thickness gages for the F2 Head.**
- **Use commercially available Teflon tape of 0.08 mm in thickness.**
- **When applying Teflon tape on the thickness gauges, make sure no bubbles or foreign material remain under the tape.**

Bubbles

Foreign materials

■ Application procedure of Teflon tape.

1. Clean the surfaces of the thickness gauge by using alcohol, and make sure no dirt or contamination remains on the surfaces.
2. Apply Teflon tape on the thickness gauge as shown below.

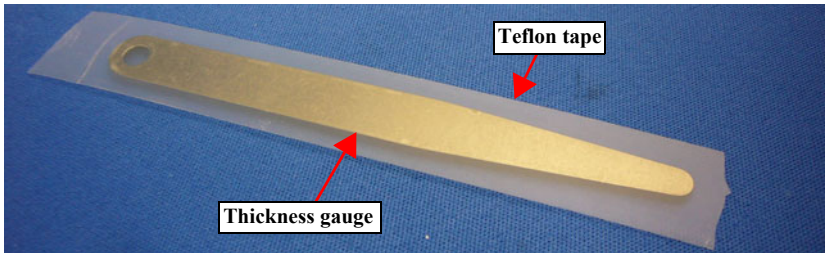
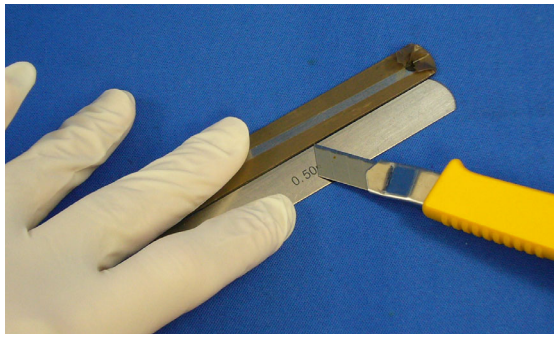


Figure 4-1. Modification of Thickness Gauge (1)

3. Fold the excess portions of Teflon tape along the edges of the thickness gauge, and trim the portions at about the center in the thickness direction of the sides.

CHECK

When trimming the Teflon tape, the teflon tape can be easily cut out by guiding the half thickness gauge.



CAUTION

- **Make sure to wear the heavy gloves to prevent the cutter from When trimming, cut in the opposite direction, away from the hand holding the gauge.cutting the hand when trimming the Teflon tape.**
- **When trimming, cut in the opposite direction, away from the hand holding the gauge.**

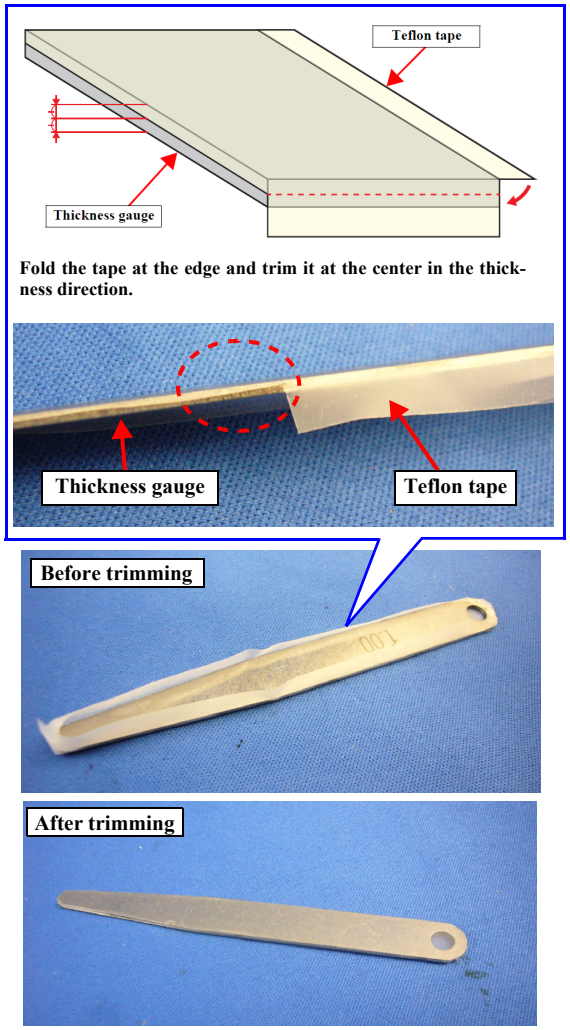

Teflon tape
Thickness gauge
Fold the tape at the edge and trim it at the center in the thickness direction.
Thickness gauge
Teflon tape
Before trimming
After trimming

Figure 4-2. Modification of Thickness Gauge (2)

4. Make sure any tears or burrs on the applied Teflon tape, then the modification of thickness gauges is complete.

4.3.1.2 Confirmation procedure

CAUTION

When performing the PG adjustment, make sure of the following.

- **Move the CR Unit by pulling the top pf the CR timing belt.**
- **Be careful not to damage the nozzle surface of the Print Head with the thickness gauge.**
- **When make the Print Head touch the thickness gauge, be careful not to let the Print Head run onto the gauge.**

1. Move the CR Unit in the middle of the printer.
2. Place the 1.45 mm (1.37 mm + 0.08 mm) thickness gauges protected with Teflon tape on the points shown below.
3. Move the CR Unit to the right and to the left to make sure that the CR Unit does not touch the gauges. If it touches a gauge, the PG is narrower than the standard. In such a case, reduce the number of the " PG Spacer" (p116)* under the Paper Guide Front Assy or reassemble the Printer Mechanism.
4. Move the CR Unit back in the middle of the printer and place the 1.95 mm (1.87 mm+0.08 mm) thickness gauges protected with Teflon tape on the same points as in Step 2.
5. Move the CR Unit to the right and to the left to make sure that the CR Unit touches the gauges. If it does not touch any gauge, the PG is wider than the standard. In such a case, increase the number of the " PG Spacer" (p116)* under the Paper Guide Front Assy or reassemble the Printer Mechanism.

Note "*": The PG Spacer is 0.1mm thin and up to two PG Spacers can be installed.

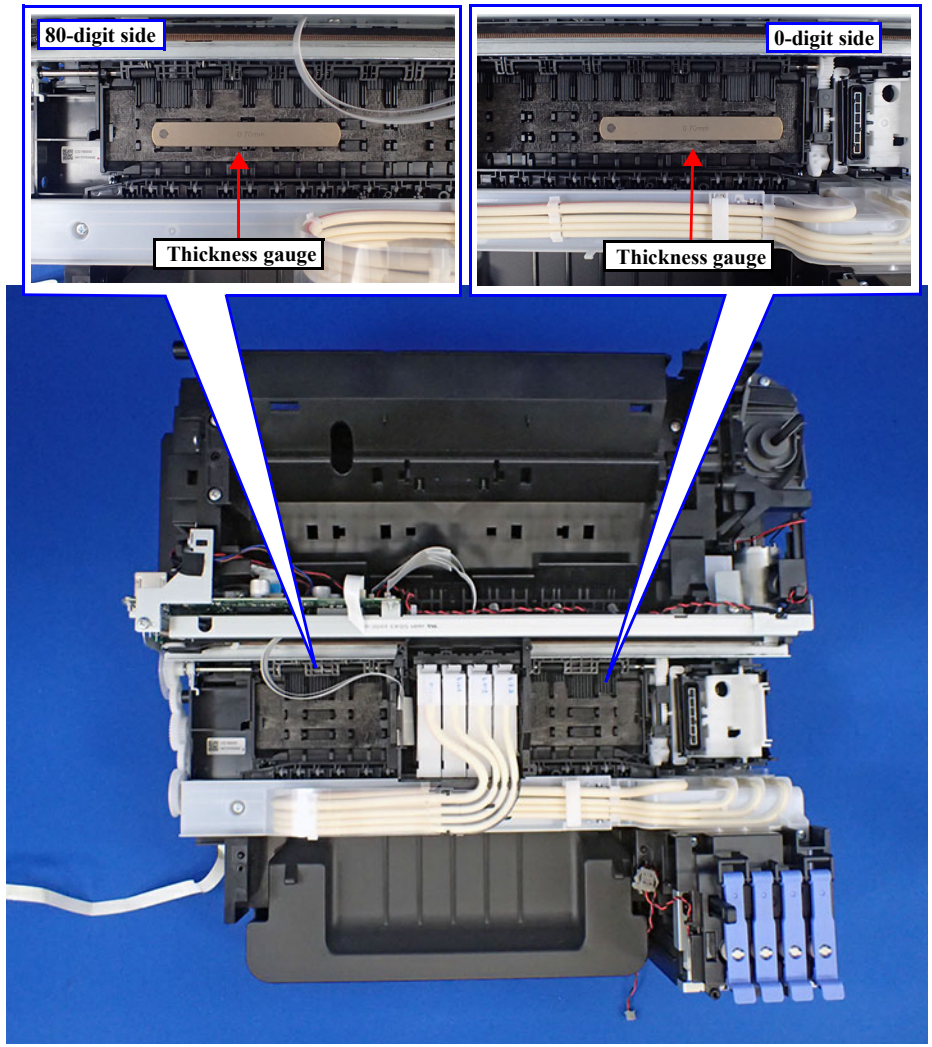


Figure 4-3. Position of the Thickness Gauge

4.3.2 Touch Panel Adjustment (ET-4850/L6290/ST-C4100 series only)

☐ Purpose
This adjustment is made to adjust the relative positions between the LCD screen and the touch panel detection coordinates.

☐ Tools
Touch pen (without a sharp end such as a plastic stick)

☐ Adjustment Procedure

1. Start the printer in the service support mode using the Printer startup mode selection of the adjustment program.
2. Press the help button, select “Touch Screen Calibration” in the screen displayed, and tap the touch panel [SW2].

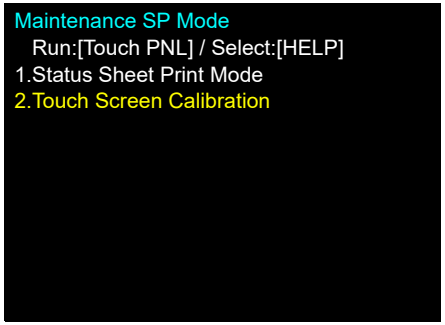


Figure 4-4. Touch panel adjustment (1)

3. Tap the touch panel [SW2] and display the adjustment screen. To cancel, press the help button [SW3].

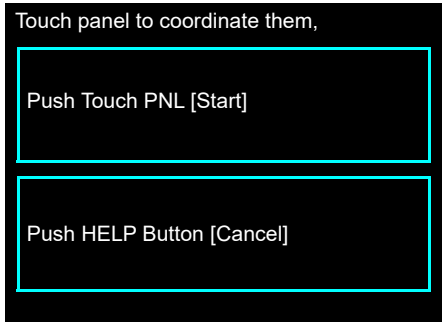


Figure 4-5. Touch panel adjustment (2)

4. Press “+” indicated on the four corners of the touch panel one by one with a touch pen.

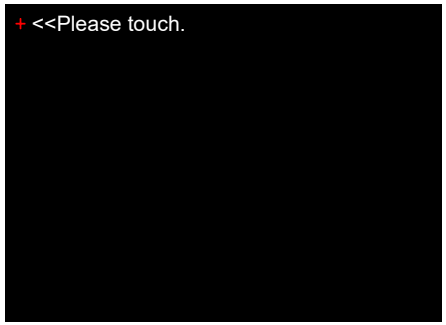


Figure 4-6. Touch panel adjustment (3)

5. If you retry the adjustment, press the help button [SW3] and repeat this procedure from Step 3. When saving the result of the adjustment, tap the touch panel [SW3].

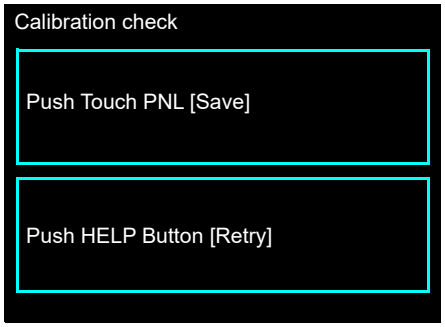


Figure 4-7. Touch panel adjustment (4)

6. Press four "+"symbols indicated with the touch pen.

Figure 4-8. Touch panel adjustment (5)

7. When "Complete!" appears on the LCD, end the adjustment by tapping the touch panel [SW2].

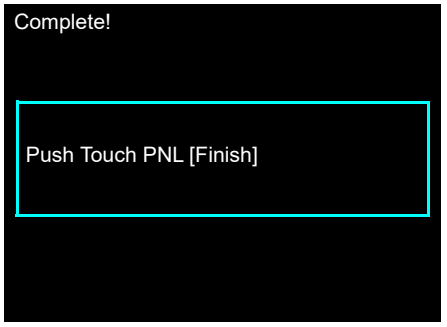


Figure 4-9. Touch panel adjustment (6)

8. When "Retry Check" appears on the LCD, retry from Step 6 by tapping the touch panel [SW2].

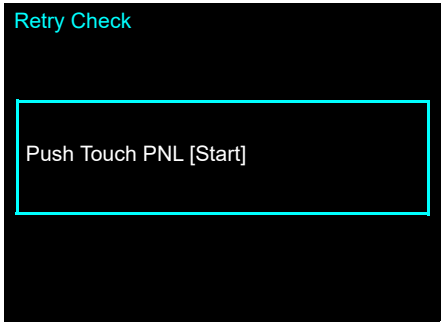


Figure 4-10. Touch panel adjustment (7)

CHAPTER

5

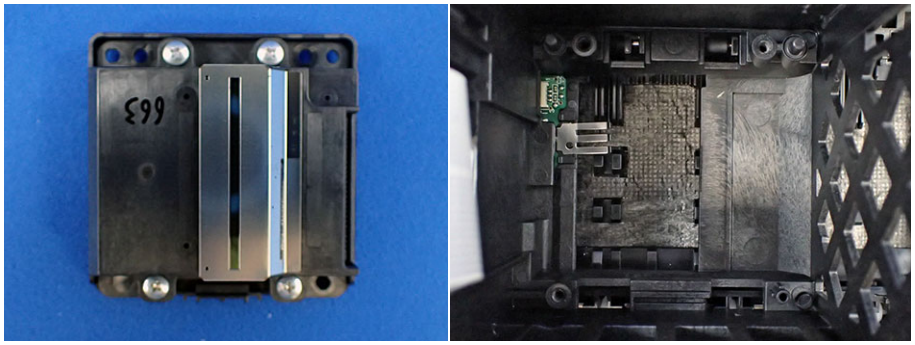
MAINTENANCE

5.1 Cleaning

5.1.1 Cleaning the CR Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/ L6260 series)

In ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ ET-3830/L6260 series, ink may be attached on the CR Unit by structure of Print Head (µTFP head) and CR Unit.
So, head short circuit may arise due to ink attachment on the terminal of the head FFC when replacing the Print Head.

To prevent this phenomenon, cleaning procedure of the CR Unit is described below.



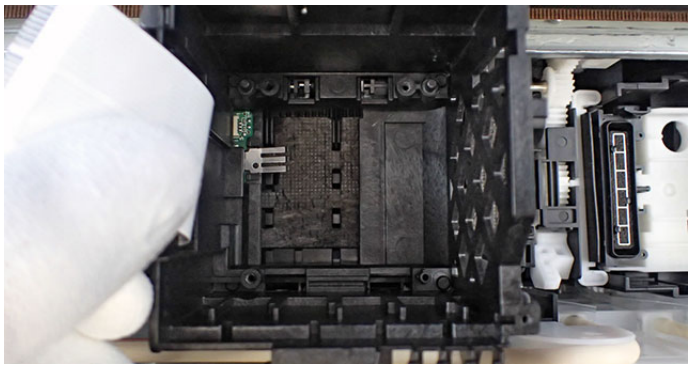
CAUTION

- **This cleaning should be carried out only when replacing the Print Head.**
- **When installing the Print Head, make sure the Head FFC is not contaminated with ink beforehand.**

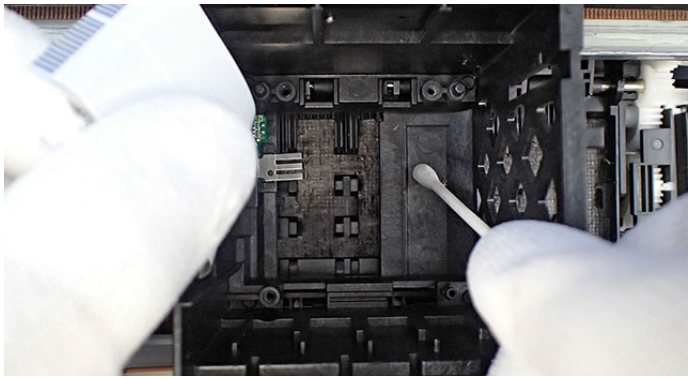
☐ Tool: Cotton swab or soft dry dust-free cloth

☐ Cleaning procedure

1. After pulling out the head FFC while holding the Print Head from the carriage, confirm the ink attachment on the CR Unit.



2. If ink attached on the CR Unit, wipe it off with a cotton swab (or a soft dry dust-free cloth).



5.1.2 Cleaning the nozzle plate section of the Print Head (ET-2750/ET-2760/L4160/ST-2000 series)

In ET-2750/ET-2760/L4160/ST-2000 series, when foreign materials that can be seen visually is soiled to the nozzle plate section of the Print Head (F2 head), cleaning is necessary.

Cleaning procedure is described below.

CAUTION

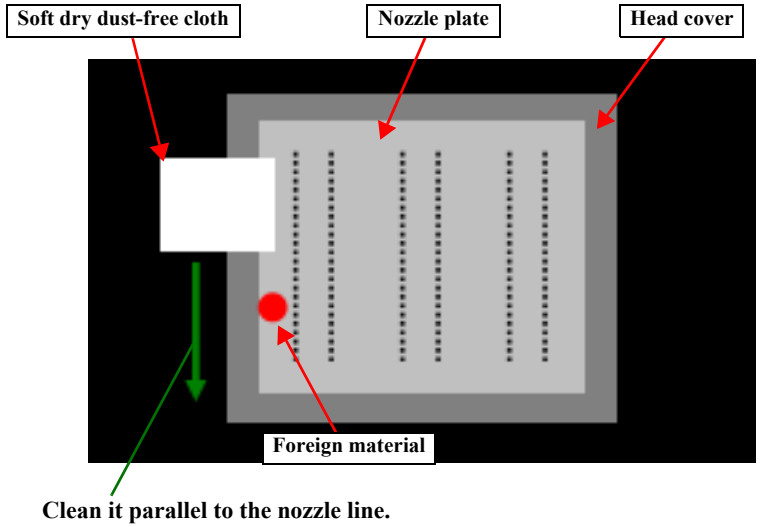
- **This cleaning should be carried out only if you can see foreign material on the nozzle plate of the Print Head.**
- **Make sure not to break the nozzle plate with excess force.**
- **Make sure not to deform the head cover.**
- **To prevent mixed colors, make sure to clean it parallel to the nozzle line.**
- **Only wipe off where foreign material attaches, and do not touch the other sections to the utmost. If foreign material is big, make sure to wipe it off with a clean part of a soft dry dust-free cloth in batches.**
- **When cleaning the nozzle plate of the Print Head, pure water/CR02 can be used to enhance transcription. But, make sure not to use the undesignated liquid (tap water/ CR06) because they may have a negative influence on the Print Head filter.**

☐ Tools

- Soft dry dust-free cloth
- Liquid (pure water/CR02)

☐ Cleaning procedure

1. Remove foreign material by moving a soft dry dust-free cloth slowly and lightly.



Note : Pure water/CR02 can be used to enhance transcription of foreign material.

5.1.3 Cleaning the Exterior Parts/inside of the printer

This section describes how to clean the sections other than the carriage.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD Roller used to feed paper
  If paper dust or the like adhered to the rollers decreases the frictional force of the rollers and causes paper feed problems, moisten a cloth with water or diluted alcohol and wring the water out, then wipe the dust off the roller using the cloth.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the Pickup Roller/Middle Roller/LD Roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

5.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to " 5.2.1 Lubrication Points and Instructions (p167)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

" 5.2.1 Lubrication Points and Instructions (p167)" also provides information about whether or not the parts which require lubrication are supplied as ASP and the lubrication status when supplied as ASP. For the parts which are not supplied as ASP, if their movement is not smooth enough, check their lubrication status and lubricate them if necessary.

☐ Grease

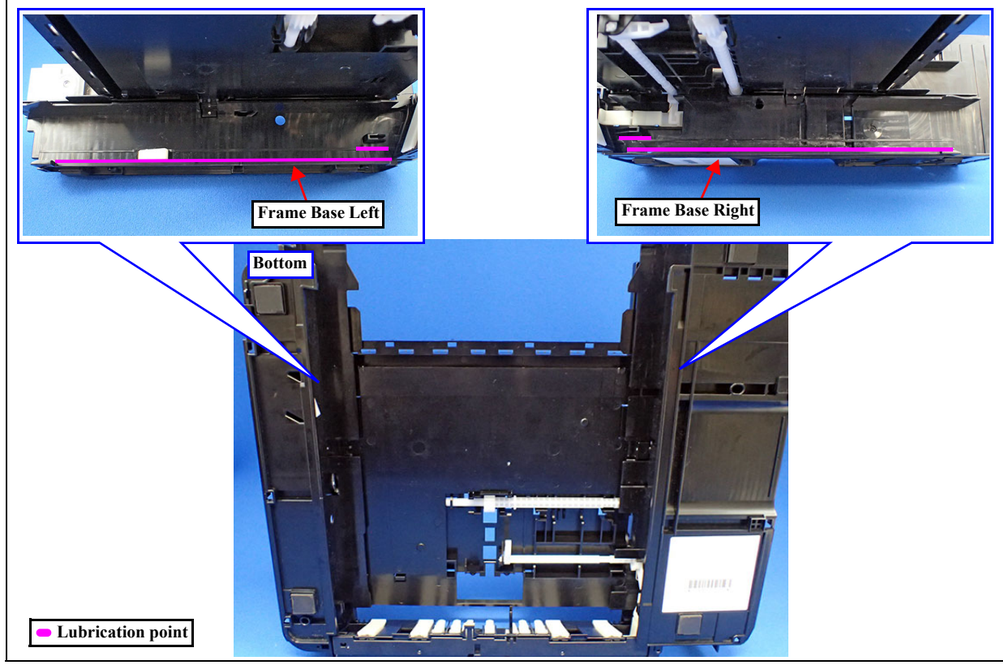
Type	Name	EPSON Part Code	Supplier
Grease	G-45	1033657	EPSON
Grease	G-65	1246432	EPSON
Grease	G-72	1409258	EPSON
Grease	G-96	1590700	EPSON
Grease	G-97	1635441	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	O *	---
Brush	O *	---
Flux dispenser	O *	---

Note "*": Use tools whose specifications are specified in " 5.2.1 Lubrication Points and Instructions (p167)"

5.2.1 Lubrication Points and Instructions



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

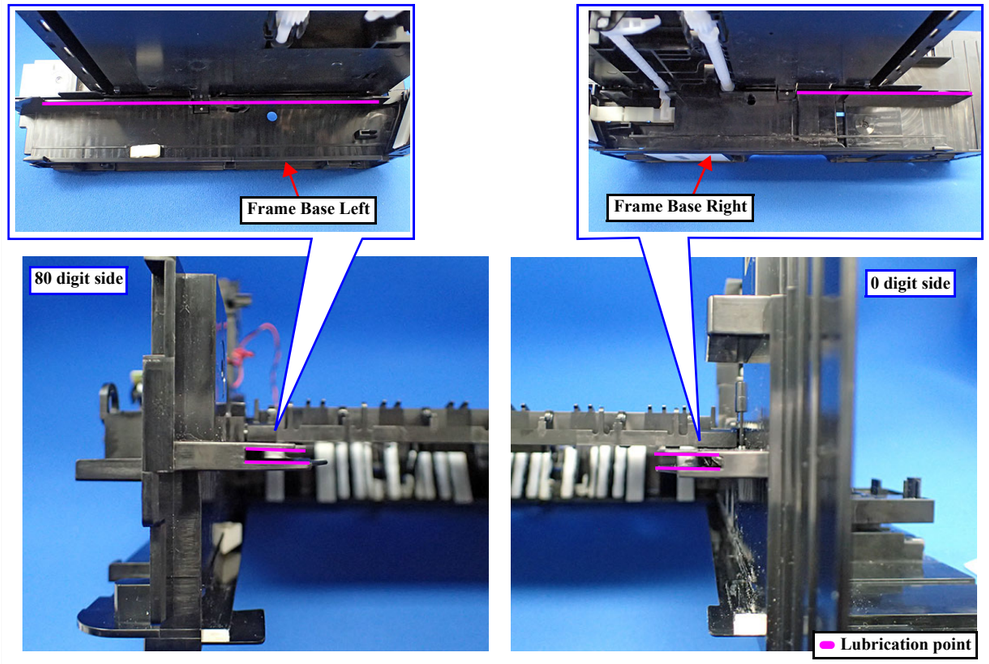
<Lubrication Point>
1. Cassette sliding parts of Frame Base Left (two points)
2. Cassette sliding parts of Frame Base Right (two points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with Flux Dispenser.
☐ Stir G-96 before use.

Figure 5-1. Lubricating Frame Base (1) (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

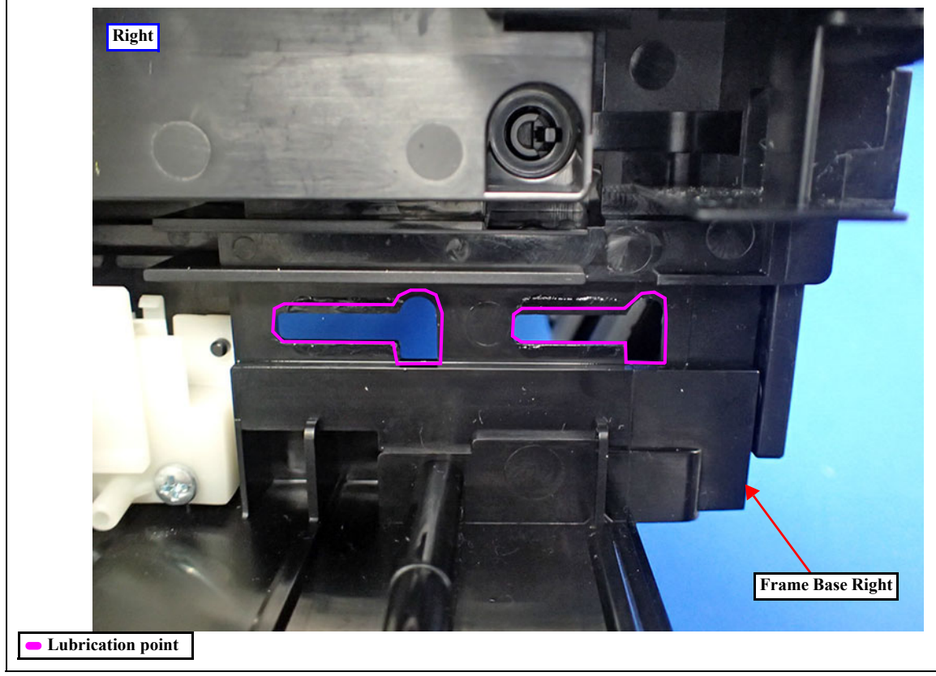
<Lubrication Point>
1. Stacker sliding parts of Frame Base Left (two points)
2. Stacker sliding parts of Frame Base Right (two points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with Flux Dispenser.
☐ Stir G-96 before use.

Figure 5-2. Lubricating Frame Base (2)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

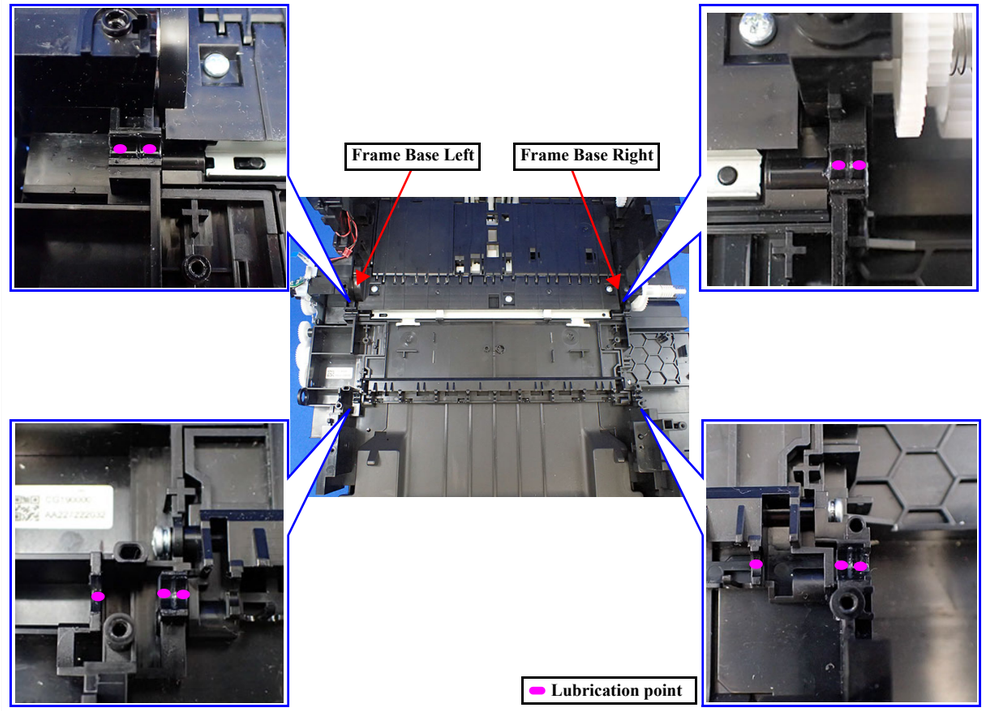
<Lubrication Point>
Around the hole to which Pick up Release Lever of Frame Base Right is attached (two points)

<Type>
G-97

<Application Amount>
0.1 g
(Size of a grain of rice)

<Remarks>
After applying with injector, spread it with a brush.

Figure 5-3. Lubricating Frame Base (3) (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

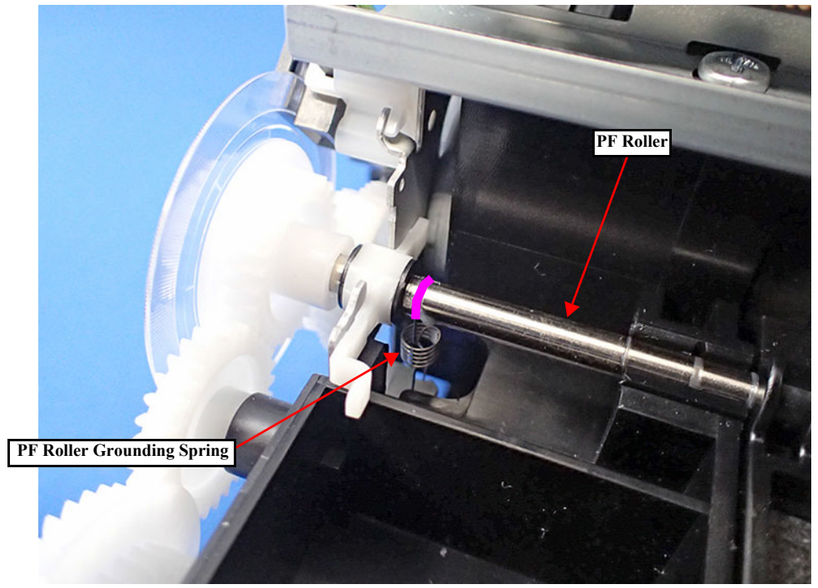
<Lubrication Point>
1. Contact points between PF Roller and Frame Base Left/Right (two points)
2. Contact points between EJ Roller and Frame Base Left/Right (three points)

<Type>
G-97

<Application Amount>
0.02 g

<Remarks>
Apply with injector.

Figure 5-4. Lubricating Frame Base (4)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

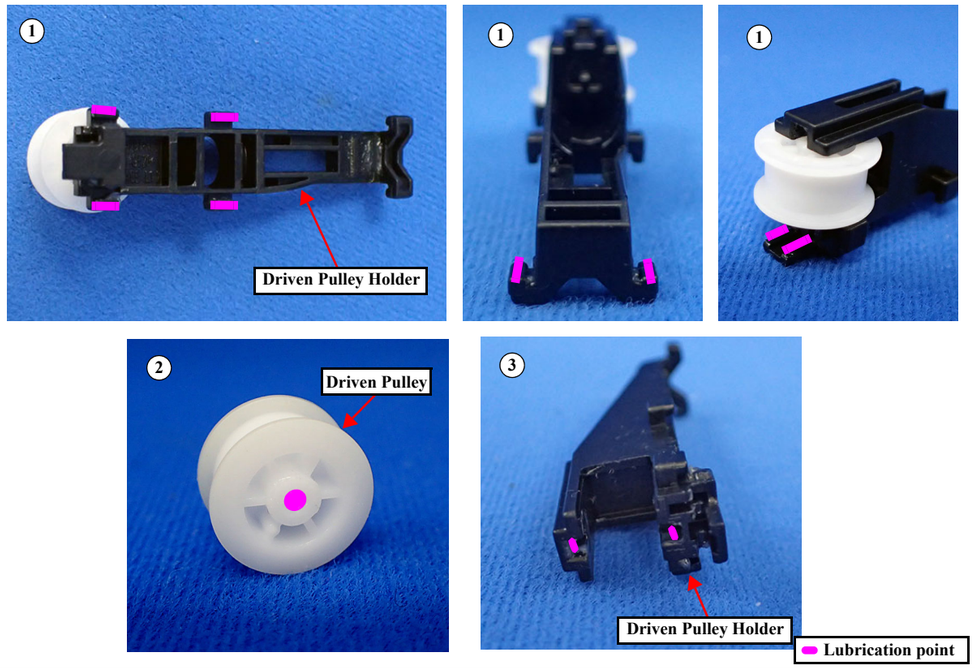
<Lubrication Point>
Contact point of PF Roller and PF Roller Grounding Spring

<Type>
G-97

<Application Amount>
0.02 g

<Remarks>
Apply with injector.

Figure 5-5. Lubricating PF Roller



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

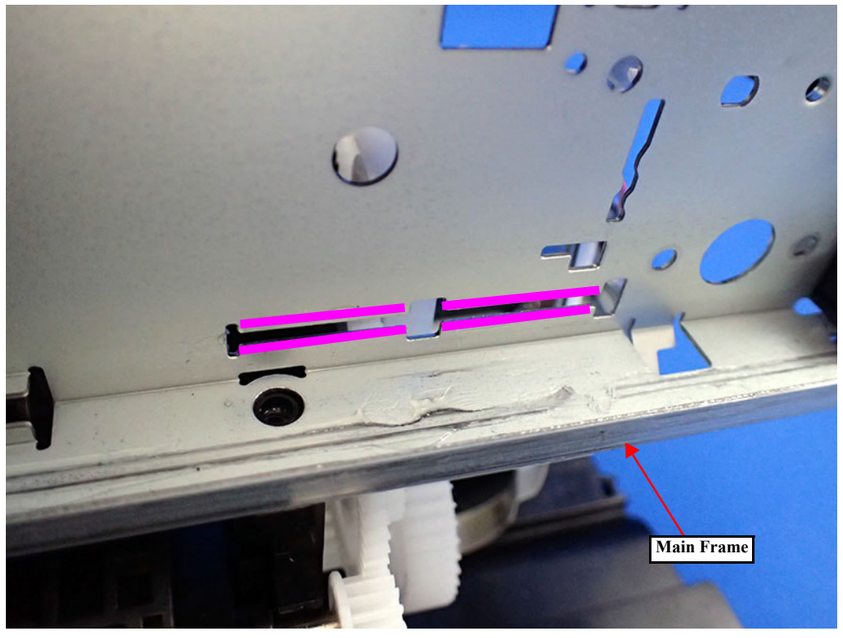
<Lubrication Point>
1. Contact points between Driven Pulley Holder and Main Frame (eight points)
2. Shaft hole of Driven Pulley
3. Bush on Driven Pulley Holder

<Type>
G-97

<Application Amount>
0.002 g

<Remarks>
Apply with injector.

Figure 5-6. Lubricating CR Driven Pulley



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

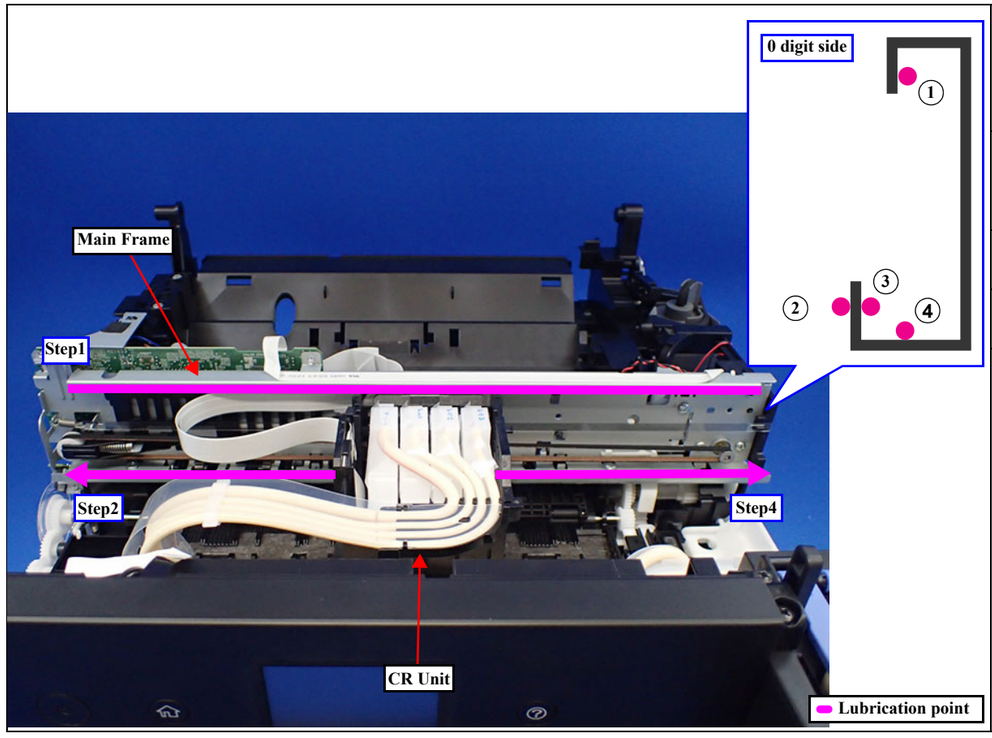
<Lubrication Point>
Contact points with Main Frame and Slider Trans (four points)

<Type>
G-97

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.

Figure 5-7. Lubricating Main Frame (1)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

<Lubrication Point>
Contact points with the Main Frame and the CR Unit (four points)

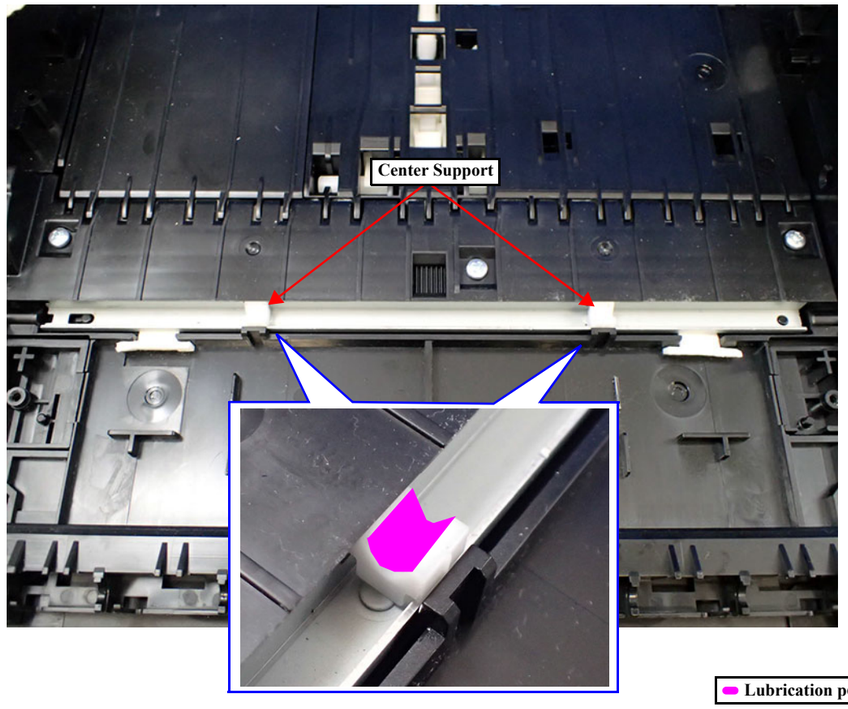
<Type>
G-97

<Application Amount>
0.15 g each

<Remarks>
- ☐ After applying with injector, rub off excess grease.
- ☐ After Paper Guide Upper Left is attached, Lubricate in the procedure given below.

1. Lubricate the part indicated by (1).
2. Move CR Unit to the center and lubricate 80 digit side of (2)(3)(4).
3. Move CR Unit to the edge of 80 digit side.
4. Lubricate 0 digit side of (2)(3)(4).

Figure 5-8. Lubricating Main Frame (2)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

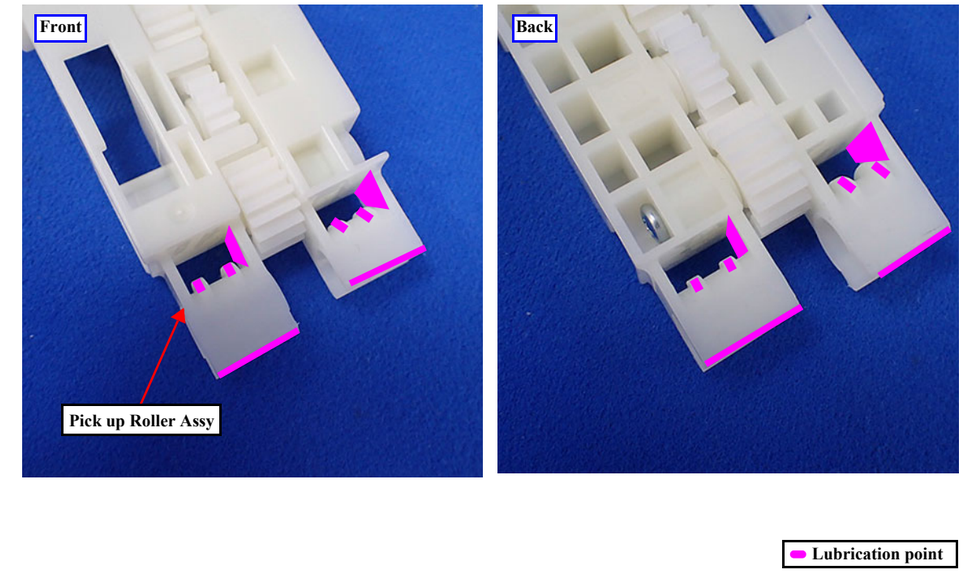
<Lubrication Point>
Contact points between PF Roller and Center Support (two points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 5-9. Lubricating Center Support (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



<Part supply as ASP>
Supplied as the Pick up Roller Assy
<Lubrication status when supplied as ASP>
Lubricated

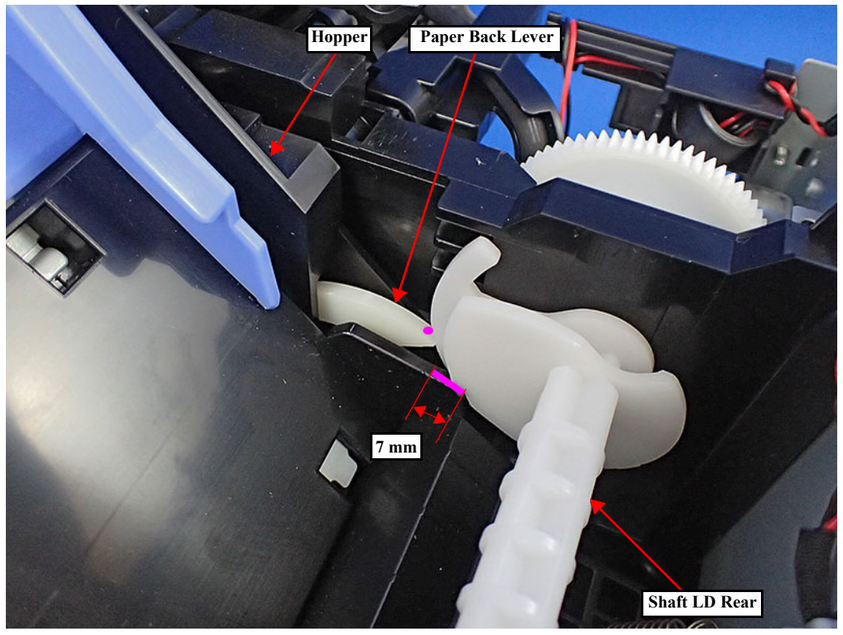
<Lubrication Point>
Contact points between Pick up Roller Assy and roller shaft (15 points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 5-10. Lubricating Pick up Roller Assy (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

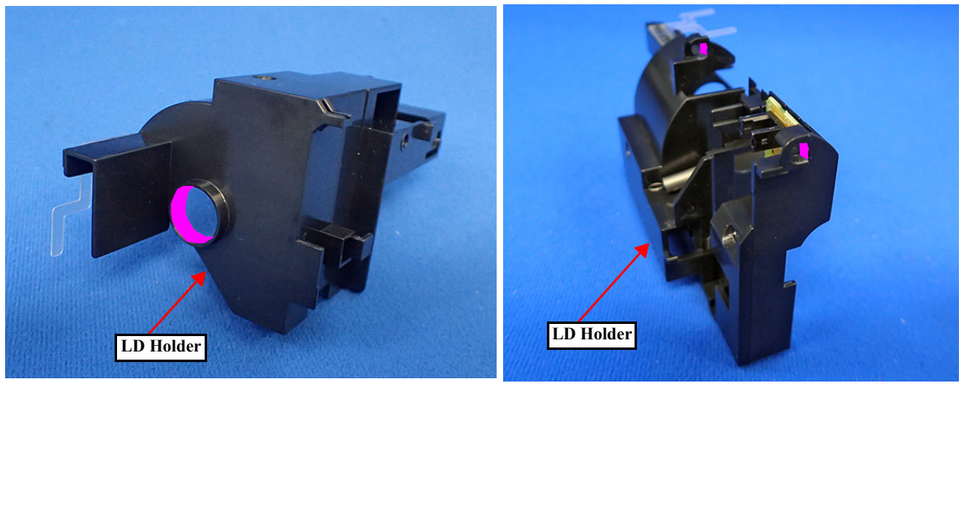
<Lubrication Point>
1. Contact point between Shaft LD Rear Assy and Hopper (one point)
2. Contact point between Shaft LD Rear Assy and Paper Back Lever (one point)

<Type>
G-97

<Application Amount>
1. Range of 7 mm from the edge shown in the left figure (0.05 g)
2. Tip part shown in the left figure (0.05 g)

<Remarks>
- ☐ After applying with injector, spread grease by rotating Shaft LD Rear clockwise.
- ☐ Rub off excess grease.

Figure 5-11. Lubricating Frame ASF Rear Assy (ET-2850/L4260/ST-C2100 series only)



<Part supply as ASP>
None
<Lubrication status when supplied as ASP>
Not lubricated

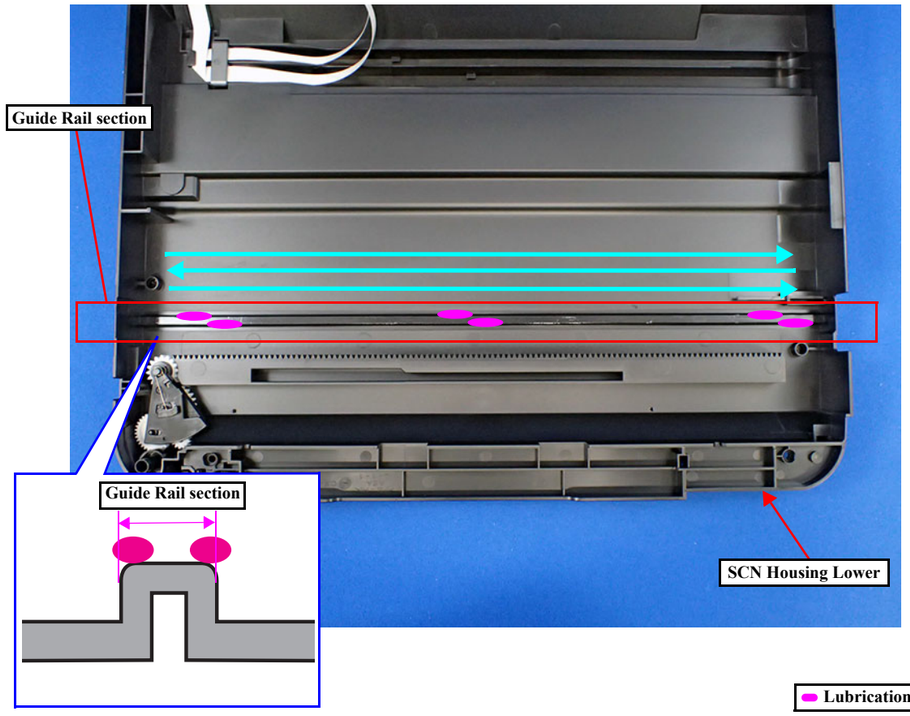
<Lubrication Point>
Bush of LD Holder (three points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 5-12. Lubricating LD Holder (ET-2850/L4260/ST-C2100 series only)



<Part supply as ASP>
Supplied as the SCN Unit
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
Guide rail section of SCN Housing Lower (six points)

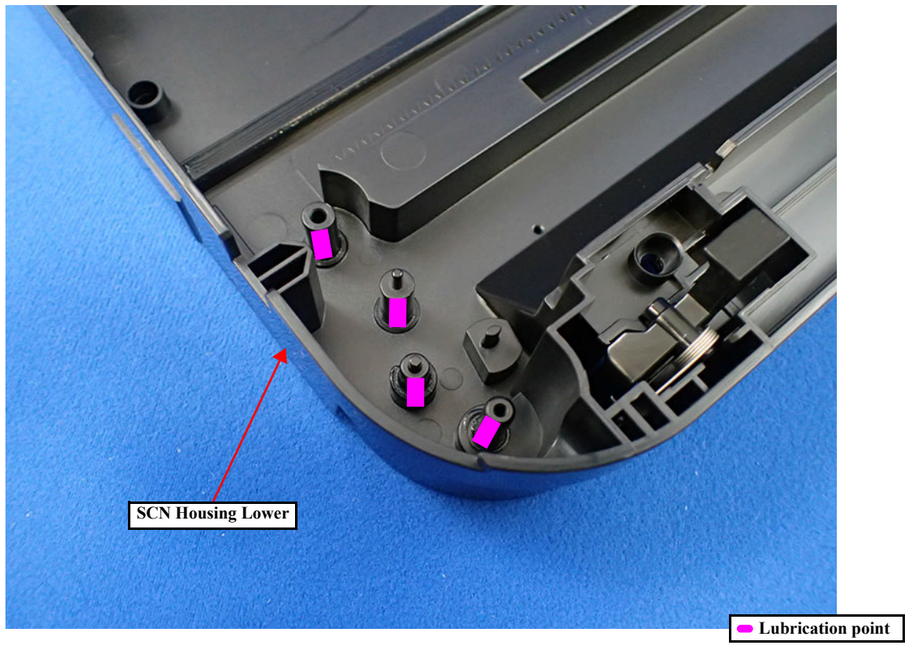
<Type>
G-45

<Application Amount>
0.02 g each

<Remarks>
☐ Lubricate in the procedure given below
1. Apply grease with injector to six points shown in the left figure.
2. Using a brush, spread grease side to side three times as shown by the arrows.

☐ Be careful not to lubricate parts other than specified part and rub off excess grease.

Figure 5-13. Lubricating SCN Unit (1)



<Part supply as ASP>
Supplied as the SCN Unit
<Lubrication status when supplied as ASP>
Lubricated

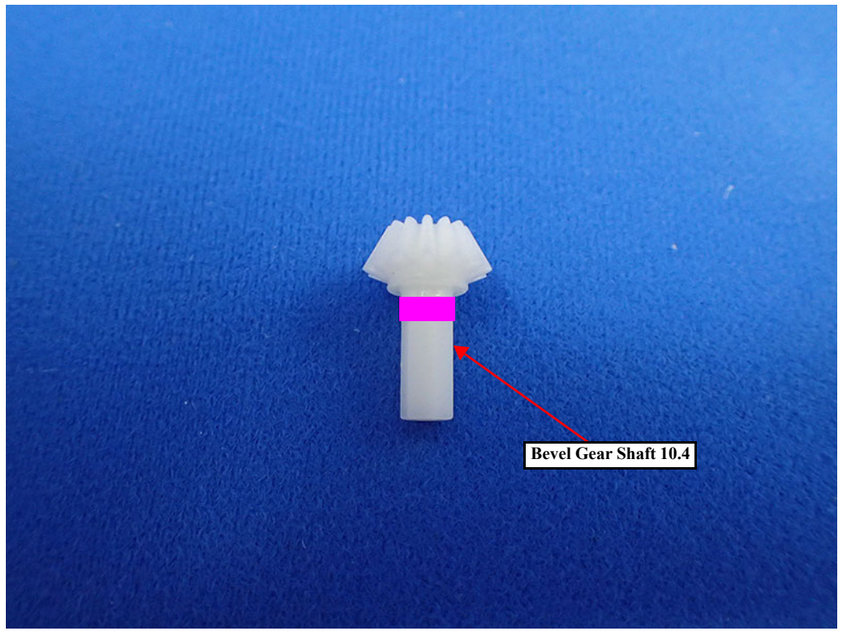
<Lubrication Point>
Shaft part of SCN Housing Lower (four points)

<Type>
G-45

<Application Amount>
Φ1 mm x 5 mm

<Remarks>
☐ Apply with injector
☐ Be careful not to lubricate parts other than specified part and rub off excess grease.

Figure 5-14. Lubricating SCN Unit (2) (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)



<Part supply as ASP>
Supplied as the ADF Unit
<Lubrication status when supplied as ASP>
Lubricated

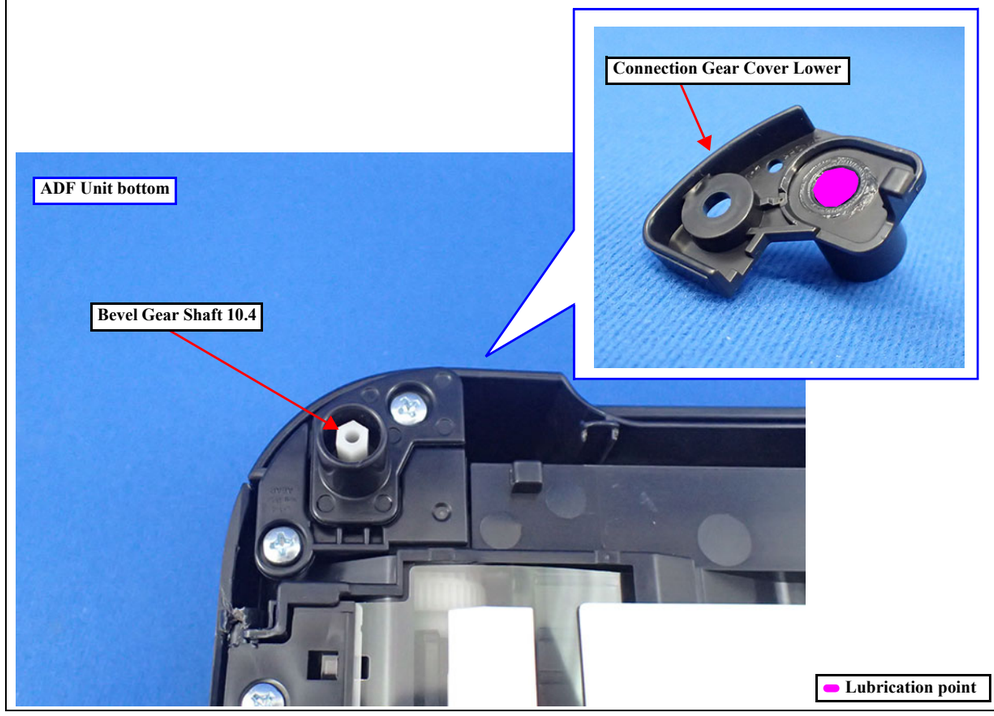
<Lubrication Point>
Shaft part of Bevel Gear Shaft 10.4

<Type>
G-97

<Application Amount>
0.03 g

<Remarks>
Be careful not to lubricate parts other than specified part and rub off excess grease.

Figure 5-15. Lubricating ADF Unit (1) (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ only)



<Part supply as ASP>
Supplied as the ADF Unit
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
Inside shaft hole of Connection Gear Cover Lower

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
☐ Apply with Flux Dispenser.
☐ Stir G-96 before use.

Figure 5-16. Lubricating ADF Unit (2) (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ only)

CHAPTER

6

APPENDIX

6.1 Connector Diagram

Cable connections of this printer are shown below.

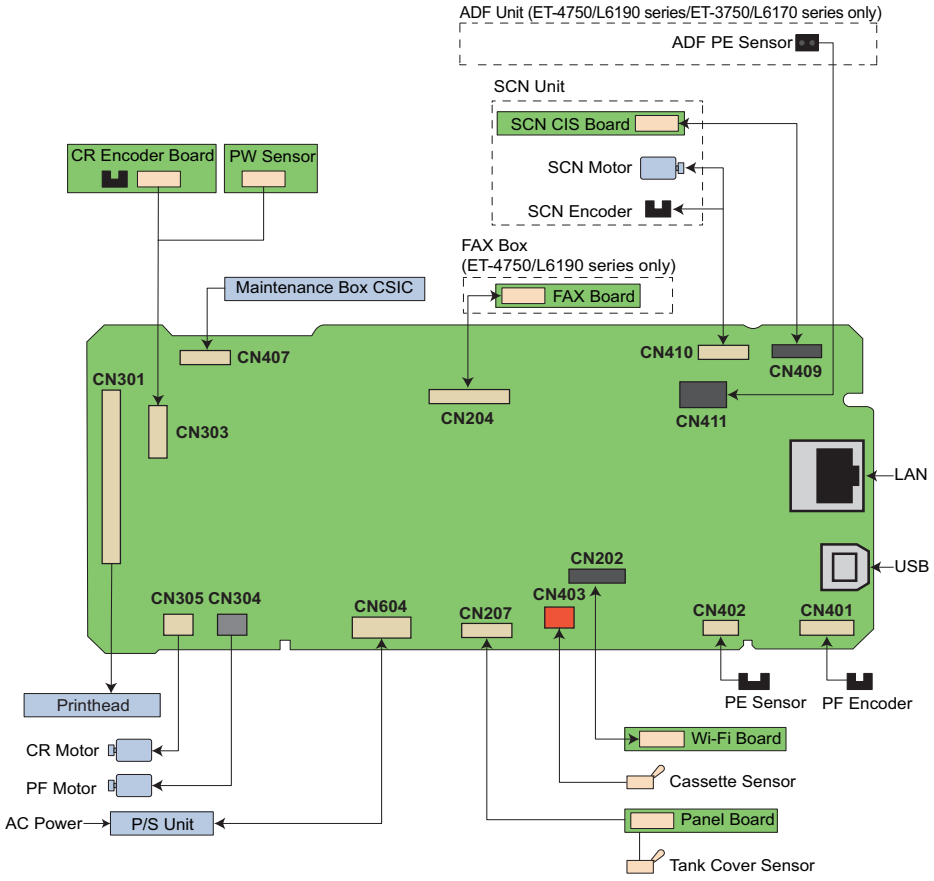


Figure 6-1. ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

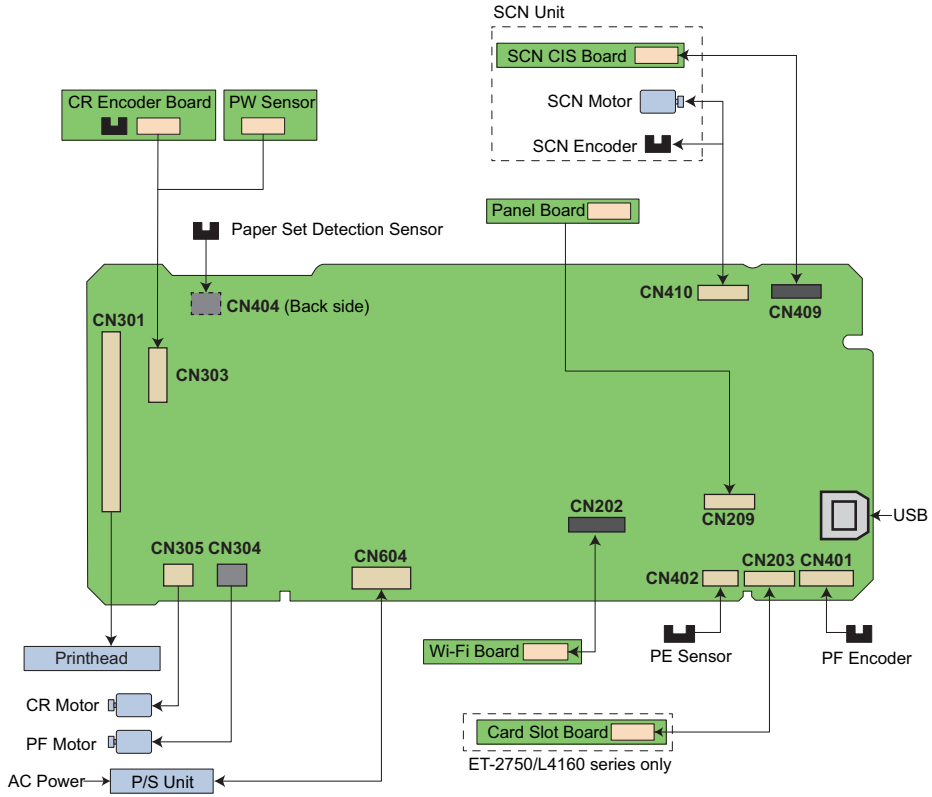


Figure 6-2. ET-2750/ET-2760/L4160/ST-2000 series

6.2 Head Fuse

Head fuse of this printer is shown below.

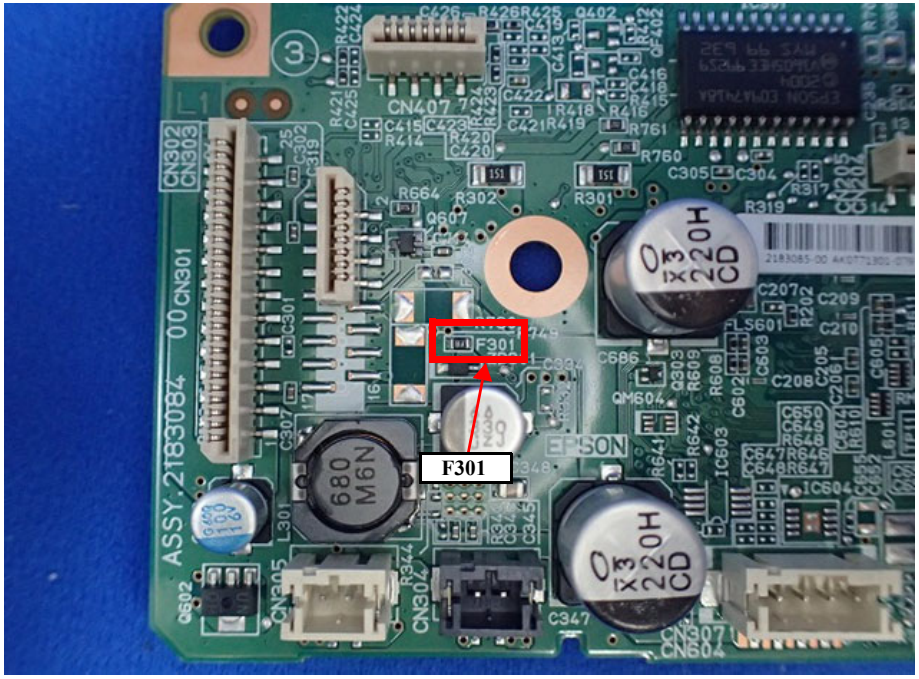


Figure 6-3. ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series

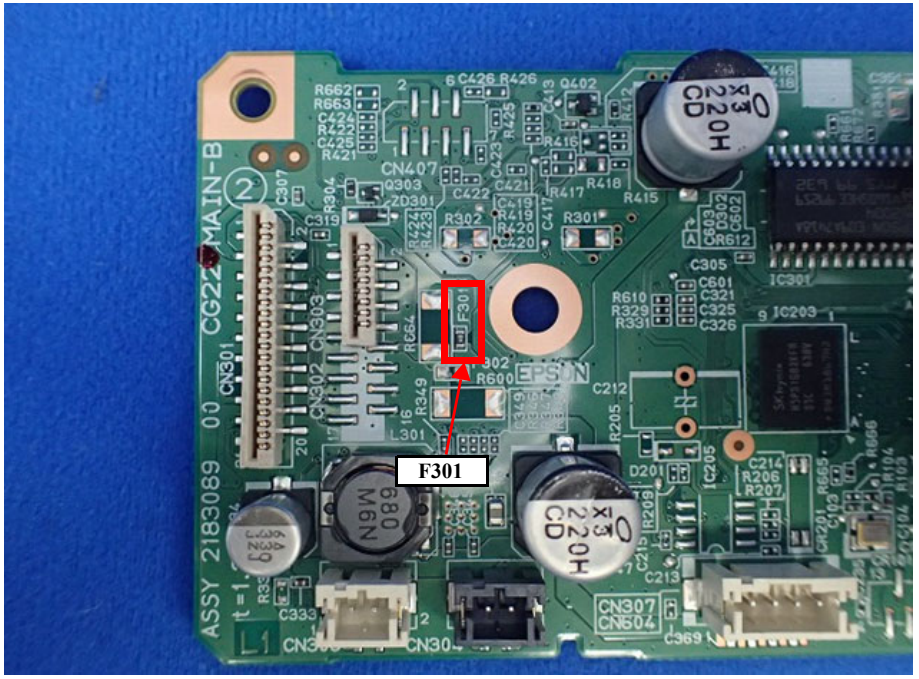


Figure 6-4. ET-2750/ET-2760/L4160/ST-2000 series

6.3 Protection for Transportation

This section explains specific points of note regarding packaging after repairs are completed.

6.3.1 Securing the CR Unit

- Purpose

  To prevent damaging the CR Unit by shock during transportation.

- Risk if it is not performed.

  Fatal error caused by the damage of the CR Unit.

- Preparation

  Packing tape (Length: 200 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  1. Turn off the printer and move the CR Unit to the 0-digit side fully.
  2. Align the unfolded end of the packing tape with Section A on the CR Unit as shown below, then attach the tape to the unit.
  3. Attach the folded end of the packing tape to the Housing Right routing the tape over the CR Cover.

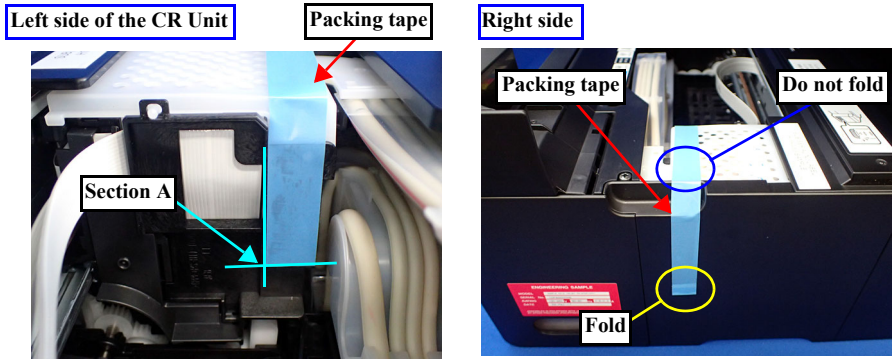


Figure 6-5. Securing the CR Unit

6.3.2 Securing the ADF/SCN Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)

- Purpose

  To prevent damaging the ADF/SCN Unit by shock during transportation.

- Risk if it is not performed

  Scanner fatal error caused by the damage of the ADF/SCN Unit.

- Preparation

  Packing tape (Length: 150 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the ADF/SCN Unit as shown below.

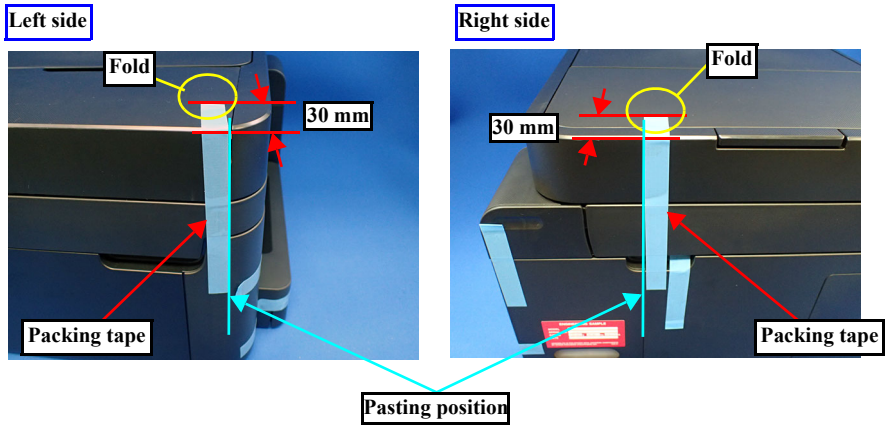


Figure 6-6. Securing the ADF/SCN Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series only)

6.3.3 Securing the SCN Unit (ET-3800/ET-3830/L6260 series/ET-2750/ET-2760/L4160/ST-2000 series)

- Purpose

  To prevent damaging the SCN Unit by shock during transportation.

- Risk if it is not performed

  Scanner fatal error caused by the damage of the SCN Unit.

- Preparation

  Packing tape (Length: 120 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the SCN Unit as shown below.

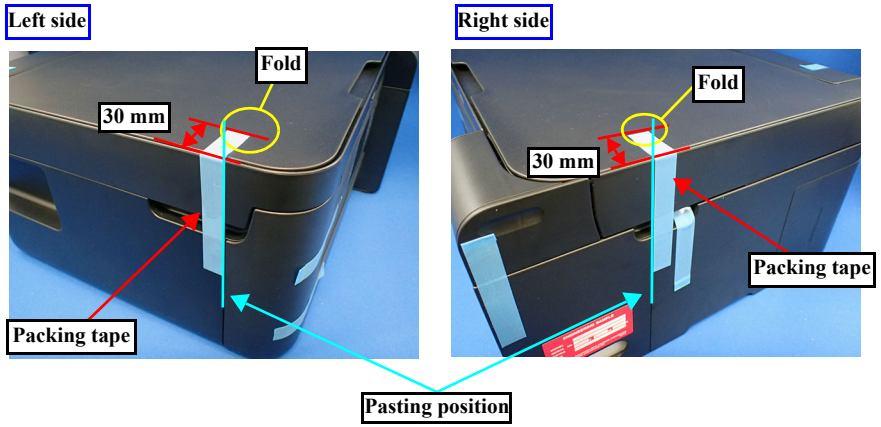


Figure 6-7. Securing the SCN Unit (ET-2750/ET-2760/L4160/ST-2000 series only)

6.3.4 Securing the Panel Unit

- Purpose

  To prevent damaging the Panel Unit by shock during transportation.

- Risk if it is not performed

  User not able to use because of damage to the Panel Unit.

- Preparation

  Packing tape (Length: 80 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the Panel Unit as shown below.

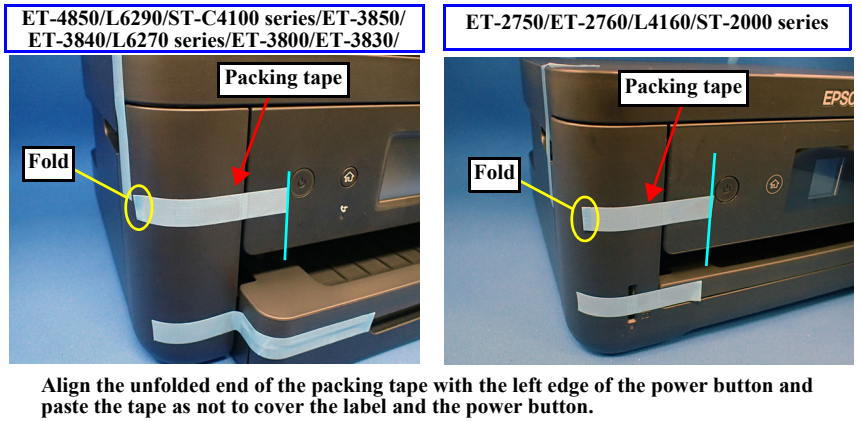

ET-4850/L6290/ST-C4100 series/ET-3850/ ET-3840/L6270 series/ET-3800/ET-3830/
ET-2750/ET-2760/L4160/ST-2000 series
Packing tape
Fold
Packing tape
Fold
Align the unfolded end of the packing tape with the left edge of the power button and paste the tape as not to cover the label and the power button.

Figure 6-8. Securing the Panel Unit

6.3.5 Securing the Stacker (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/ L6260 series only)

- Purpose

  To prevent damaging the Stacker by vibration during transportation.

- Risk if it is not performed

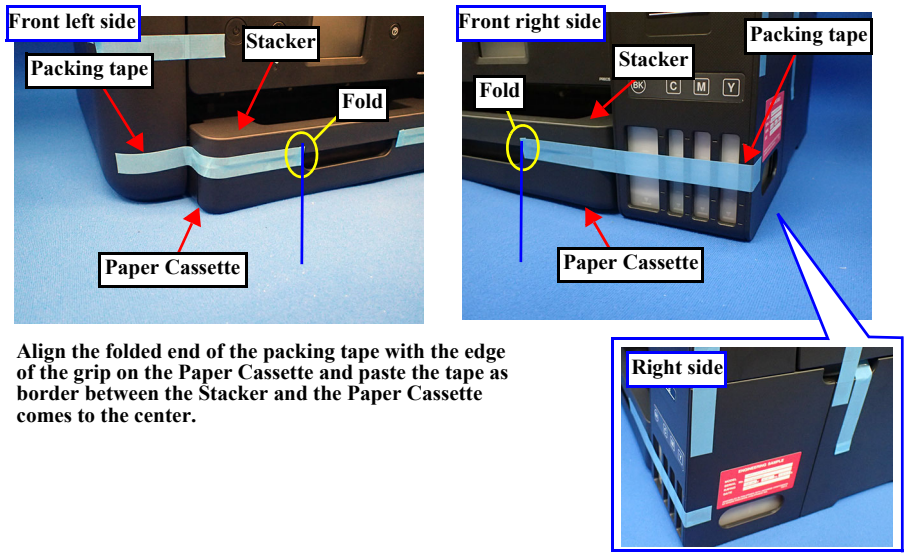
  Damage to the Stacker due to vibration during transport.

- Preparation

  Prepare two pieces of packing tape.
  - Length: 150 mm, width: 14 mm, fold on the end: 5 mm
  - Length: 180 mm, width: 14 mm, fold on the end: 5 mm

- Method

  Secure the Stacker as shown below.



Align the folded end of the packing tape with the edge of the grip on the Paper Cassette and paste the tape as border between the Stacker and the Paper Cassette comes to the center.

Figure 6-9. Securing the Stacker (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)

6.3.6 Securing the Stacker (ET-2750/ET-2760/L4160/ST-2000 series only)

- Purpose

  To prevent damaging the Stacker by vibration during transportation.

- Risk if it is not performed

  Damage to the Stacker due to vibration during transport.

- Preparation

  Prepare two pieces of packing tape.
  - Length: 80 mm, width: 14 mm, fold on the end: 5 mm
  - Length: 180 mm, width: 14 mm, fold on the end: 5 mm

- Method

  Secure the Stacker as shown below.

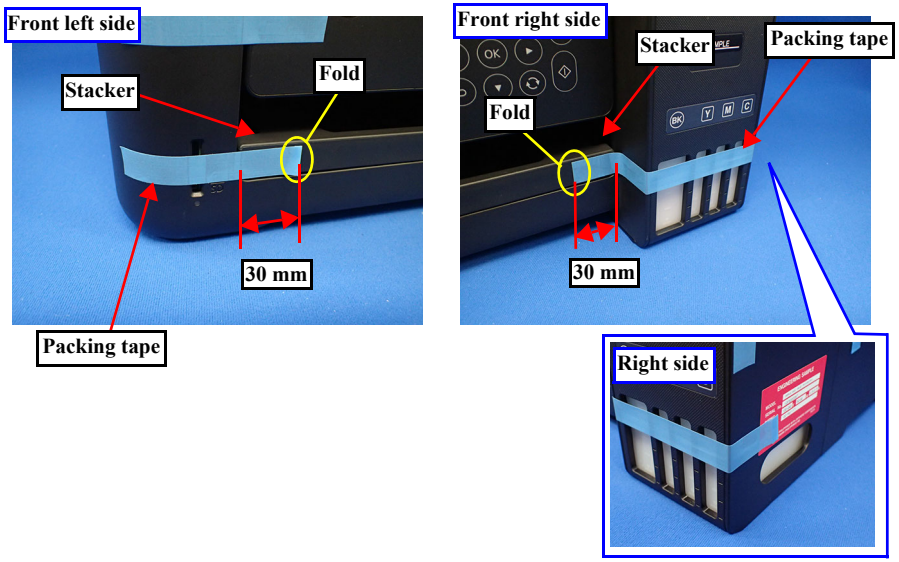


Figure 6-10. Securing the Stacker (ET-2750/ET-2760/L4160/ST-2000 series only)

6.3.7 Securing the Duplex Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/ L6260 series only)

- Purpose

  To prevent damaging the Duplex Unit by shock during transportation.

- Risk if it is not performed

  Damage to the Duplex Unit due to vibration during transport.

- Preparation

  Prepare two pieces of packing tape. (Length: 100 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the Duplex Unit as shown below.

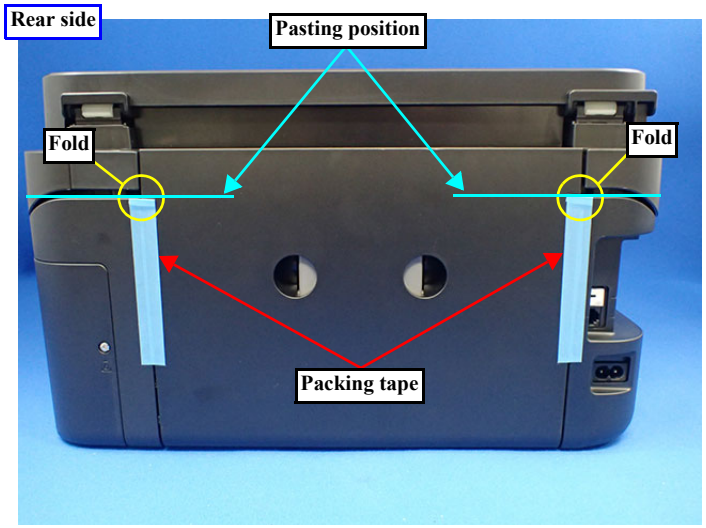


Figure 6-11. Securing the Duplex Unit (ET-4850/L6290/ST-C4100 series/ET-3850/ET-3840/L6270 series/ET-3800/ET-3830/L6260 series only)

6.3.8 Securing the Duplex Unit (ET-2750/ET-2760/L4160/ ST-2000 series/ only)

- Purpose

  To prevent damaging the Duplex Unit by shock during transportation.

- Risk if it is not performed

  Damage to the Duplex Unit due to vibration during transport.

- Preparation

  Prepare two pieces of packing tape. (Length: 100 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the Duplex Unit as shown below.

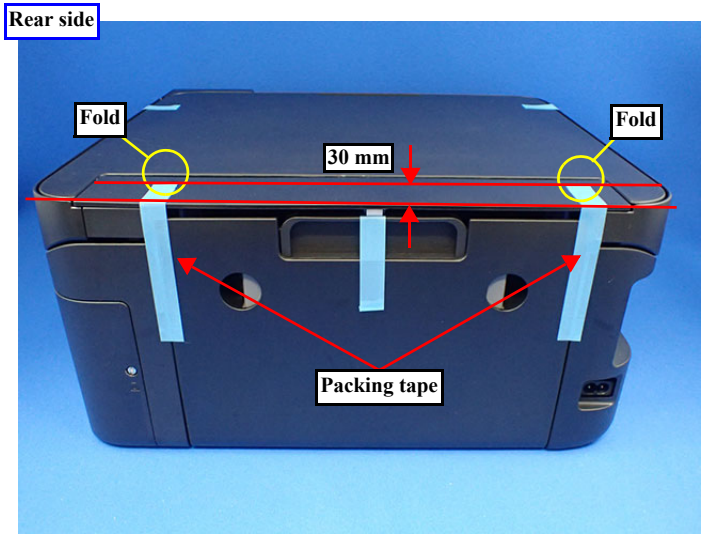


Figure 6-12. Securing the Duplex Unit (ET-2750/ET-2760/L4160/ST-2000 series only)

6.3.9 Securing the Paper Support (ET-2750/ET-2760/ L4160/ST-2000 series only)

- Purpose

  To prevent damaging the Paper Support by shock during transportation.

- Risk if it is not performed

  Damage to the Paper Support due to vibration during transport.

- Preparation

  Packing tape (Length: 120 mm, width: 14 mm, fold on the end: 5 mm)

- Method

  Secure the Paper Support as shown below.

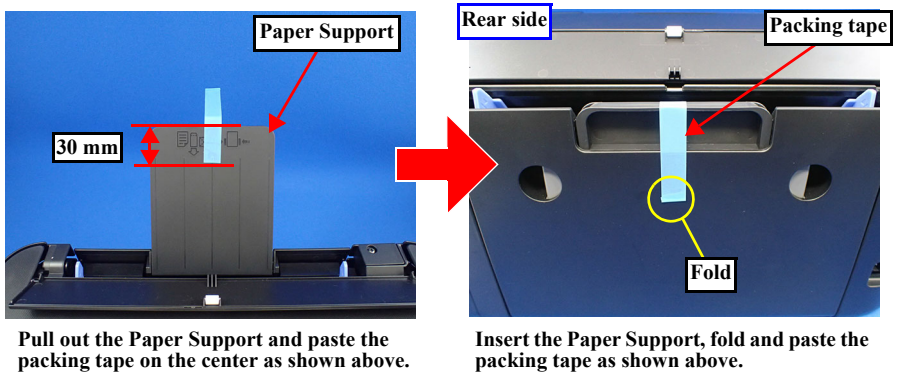

Paper Support
30 mm
Rear side
Packing tape
Fold
Pull out the Paper Support and paste the packing tape on the center as shown above.
Insert the Paper Support, fold and paste the packing tape as shown above.

Figure 6-13. Securing the Paper Support (ET-2750/ET-2760/L4160/ST-2000 series only)